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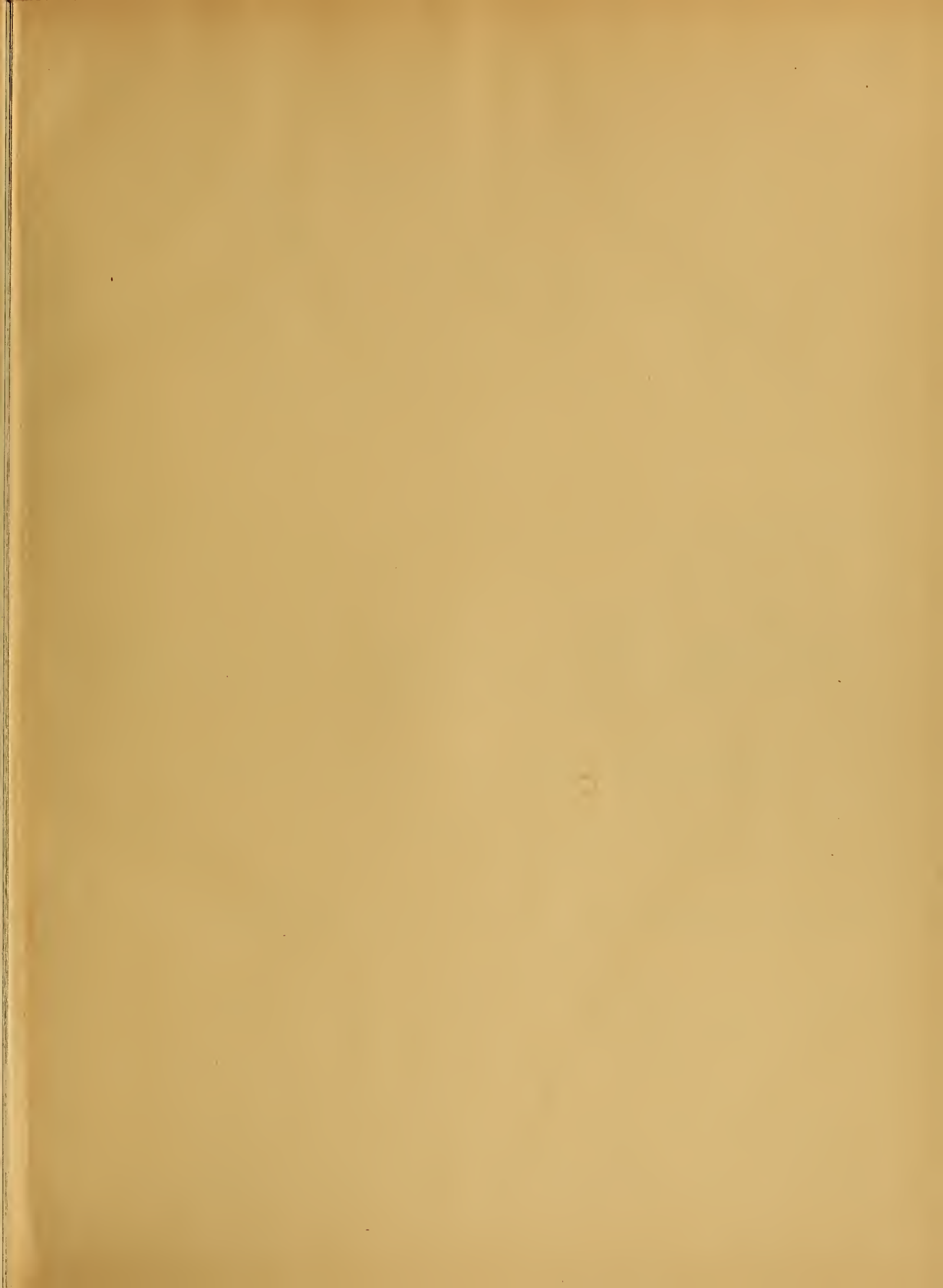
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THE BICYCLING WORLD and MOTORCYCLE REVIEW

FOUNDED
1877

In which is incorporated "THE WHEEL" (New York) and the "AMERICAN CYCLIST" (Hartford)

Vol XLIV.

New York, N. Y., U. S. A., Thursday, October 3, 1901.

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REVISED EDITION OF

"MOTORCYCLES AND HOW TO MANAGE THEM."

BY A. J. WILSON.

THE ONLY BOOK OF THE SORT IN EXISTENCE.

126 PAGES; 41 ILLUSTRATIONS.

(Nearly twice as many as previous paper-covered editions.)

BRISTLES WITH VALUABLE INFORMATION FOR THOSE WHO RIDE AND THOSE WHO INTEND TO RIDE
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Contains Chapters on "The Motorcycle Itself: What it is and How it Works"; "Care and Keep
of Motorcycles"; "Motor Bicycles"; "Defects and How to Remedy Them."

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GET IN THE BANDWAGON.

DIFFERS FROM A BICYCLE THEREFORE ITS PRICE IS DIFFERENT NO CHEAP RACYCLES

I SAME PRICE TO ALL DEALERS NO RACYCLES LENT GIVEN AWAY OR CONSIGNED NO INDUCEMENT EXCEPT THE RACYCLE

RACYCLE

SAVES 27%

RACYCLE NEVER SOLD BY MAIL ORDER HOUSES THE GRAVE DIGGERS OF THE TRADE

JAN. 1898	JAN. 1901	SEPT. 1901	JAN. 1902
288 BICYCLE FACTORIES	69 BICYCLE FACTORIES	35 BICYCLE FACTORIES	RACYCLE ANYWAY
MIAMI CYCLE & MFG. CO., MIDDLETOWN-OHIO.			

KREHBIEL-CO. CHICAGO, ILL.

WHY WASTE WEALTH

and energy toying with makeshifts and just-as-goods when the

Mitchell Motor Bicycle

is within your reach?

IT HAS BEEN TRIED AND PROVEN TRUE

and with the

FULL LINE OF MITCHELLS

in all models and at all prices, we maintain that the Mitchell agents are superbly equipped to meet any and all calls made on them. Are you one of them?

WISCONSIN WHEEL WORKS,

RACINE JUNCTION, WIS.

COASTER-BRAKE TROUBLES ELIMINATED

IN THE FINISHED

FORSYTH

DON'T CLOSE UNTIL YOU SEE IT.

Special Features: Simplicity (fewer parts than any other,) Lightness, Strength, Positive in Action, Fitted to either Chain or Chainless, Frictionless (coasts as easily as a chain wheel without any chain;) above all, our own **EXCLUSIVE SPECIAL FEATURE**, Regulation of the crank—throw can be adjusted without removing from the frame; no other Coaster-Brake on the market has this feature.

These few points ought to set you thinking. We have others. Better write us at once.

FORSYTH MFG. CO., BUFFALO, N. Y.

NO JOBBER

Can Afford to "Sign Up"

before obtaining the Barwest proposition.

DON'T DO SO!

It is better to be sure than to be sorry, you know.

The proposition is as good as the

BARWEST COASTER=BRAKE

itself
and it is simply a

Wonder=worker and the Biggest Money=maker

ever presented to the trade.



CONTAINS
NINE (9) PIECES ONLY

WEIGHS
LESS THAN ANY OTHER.



APPEARANCE — Small Barrel Hub,
1 3-4 inches in diameter; dust proof,
any size sprocket and always in
line.

COASTS ON BALLS — Valve stem
balances wheel which is free in either
direction.

BRAKE RING — Phosphor Bronze
against the steel hub.

NO FIBRE — Consequently oil can be
freely used without impeding brak-
ing ability.

NEVER STICKS — The brake ring in-
stantly releases.

NO RATTLE
NO BACKLASH

NO SQUEAK
NO LOST MOTION

NO SLIP

All Retailers

will find it profitable to get in touch with us on the "double-quick."

The Barwest Coaster=Brake Co., 99 Chambers St., New York.

The Year 1902 Will Divide the Trade

into two classes—the Progressives and Non-progressives. The classes have always existed after a fashion, but next year the dividing line will be so clean cut and distinct that all may see.

The motor bicycle will mark the division.

It will be, so to speak, the badge of the Progressives—the dealers who are not content to stand still and hang their future on the flimsy peg of Hope.

Failure to possess and push a motor bicycle will distinguish the Non-progressives—the wishers and waiters of the trade—the class that “hopes that something will turn up” in contradistinction to the Progressives who realize that it is “up to them” to turn up something, and who appreciate that the motor bicycle is the bicycle of promise—the bicycle of the future.

It's for You to Decide

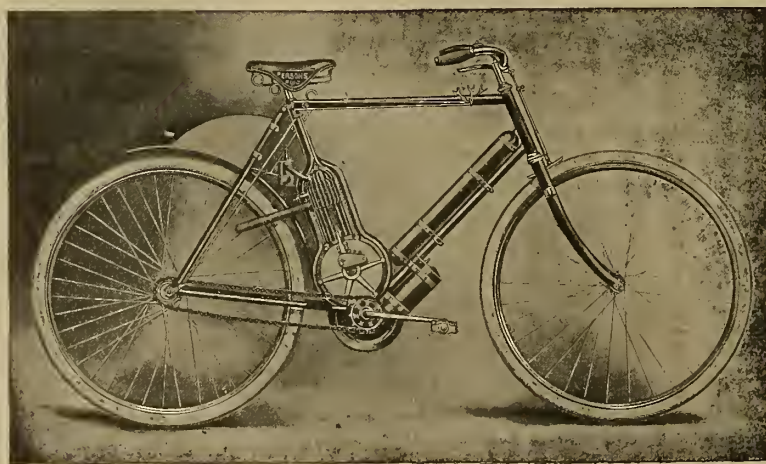
in which class you will take your stand, and the time to decide is now.

As there are great differences in men, so are there great differences in motor bicycles. There is no question, for instance, that the Royal leads them all. (If in doubt, look at the others.) As but one Progressive in each town can obtain the Royal agency, the fact should arouse **you** to instant action.

Why let the “other fellow” beat you in the race to obtain the agency for the bicycle that will attract attention the quickest, advertise you most, sell the most readily and pay the handsomest profits?

Remember the story of the early bird, and prove yourself a real Progressive!

While postage stamps are so cheap, you cannot use one for a better purpose.



ROYAL MOTOR WORKS, CHICOPEE FALLS, MASS.

The Bicycling World

AND MOTOCYCLE REVIEW.

In which is incorporated "The Wheel and Cycling Trade Review" and the "American Cyclist."

Volume XLIV.

New York, U. S. A., Thursday, October 3, 1901.

No. 1

ALL SALES DEPARTMENTS GO

**A. B. C. Merges Them Into Three Central Departments
With New Managers in Charge—Shifts—about
in Headquarters Staff, Also—Few
Branch Stores to Remain.**

It has now developed that the American Bicycle Co.'s discontinuance of the Columbia Sales Department, as reported last week, was but one of a succession of orders that have wiped out all other sales departments as hitherto constituted.

The Columbia, Cleveland, Crescent, Rambler, Monarch and Featherstone departments—all that remained after the last shakedown—are no more. They have ceased to exist, and managers and office employees alike have been given their "papers."

The six departments have been merged into three, one of which will be located in New York, one in Chicago and the third in San Francisco. They will probably be styled, in order, the Eastern, the Western and the Pacific sales departments, and each in their respective territories will, of course, handle the various bicycles made by the company.

The headquarters staff itself does not escape the pruning knife.

The management of the general sales department, heretofore controlled by Third Vice-President Merseles, has been added to the duties of Second Vice-President Bromley, who also retains the reins of the manufacturing department. His chief assistant and virtual purchasing agent, J. C. Matlack, goes from headquarters to Chicago to assume the management of the new Western Sales Department, which will probably be located in the Crescent factory. The manager of the Eastern Department will be Charles E. Walker, who will not be attached to the central office, but will have offices in Warren street, New York, in one of the buildings now occupied by an A. B. C. branch. Which

one has not been definitely decided. The manager of the Pacific Department has not yet been selected.

Mr. Bromley and Mr. Matlack, the latter of whom is often accused of having ice water in his veins, are both original Featherstone men and came to New York from the West. Mr. Walker is an old Columbia man, and served at Hartford under ex-Manager Albert L. Pope, whose recent utterance, or alleged utterance, "Trusts are bad things for the country," is being mistakenly credited to his father, Colonel Albert A. Pope, who still retains his interests and position in the company.

While the sales departments are abolished, the factories to which they were attached and all other factories now in operation are not affected, and will be continued in operation. Branch stores, however, are due to feel the knife keenly. No branch that has failed to earn a profit this year will be continued. How many branches will be affected by this dictum the Bicycling World's informant could not say, "but," he added, "it's sound business policy, isn't it?"

The information as detailed is authoritative, and comes from an official source. It will serve to set at rest at least some of the many rumors that are afloat.

Reports of a general reorganization and that the bondholders of the A. B. C. would assume control and direction of its affairs, and that two vice-presidencies will be abolished, this informant stamped as idle gossip. Nothing of the sort is likely, he said; and, save the action already taken by the executive committee, nothing else is possible.

The annual meeting of the company occurs on Tuesday next, and what may grow out of it no man can say; certain it is that those in position to do so do not anticipate anything of a sensational nature.

RETAIL POOL UNFOLDS PLANS

**Places Itself on a Substantial Basis by Buying Out—
right one of New England's Biggest Jobbing
Houses—Specific Statement of its
Objects and Offerings.**

While many in the trade have been speculating as to the whys and wherefors of the Equitable Distributing Co.—the New England retail pool—the officials of the company themselves have had important irons in the fire.

The first of these was drawn out late last week, and develops a surprise of the first magnitude: The Equitable people have purchased, lock, stock and barrel, the well known United Supply Co., of Boston. They came into possession of the stock and premises, 55 Hanover street, on the 1st inst., the latter of which is now designated the "temporary warehouse" of the Equitable Co.

The United Supply Co. represented an amalgamation of George F. Kehew & Co. and the Elastic Tip Co., and was one of the three largest and best known and best stocked jobbing houses in New England; the dealers' organization is thus placed on a firm footing, with a ready stock of all that their members may require. Mr. Kehew retains no interest whatever in the business, and has no definite plans for the immediate future.

Simultaneously some definite and specific information regarding the aims and scope of the Equitable Distributing Co. is given out, to wit:

Objects: To secure as stockholders and associate members all legitimate bicycle dealers with ability to pay spot cash.

To rigidly maintain list prices.

To secure for our stockholders and associate members all sundries, tires, parts, etc., etc., at such prices that the jobber's profit is entirely wiped out.

To secure for them a low priced, good bicycle, stripped, except chain and seat post,

THE BICYCLING WORLD

WEST IN GOOD SHAPE

Jobber Robey Details Some of the Favoring Causes—Sees Inch Tubing Coming.

Among the visiting tradesmen in New York last week was Fred Robey, of the Excelsior Supply Co., whose extensive jobbing interests, in the West particularly, keeps him in close touch with the trade. He confirms what others have stated, that the business in the West has been far better than in the Eastern half of the country. Despite weather conditions, the Excelsior business shows an increase over last year, sales during June and July having more than made good the effects of the wet spell.

The more wholesome state of affairs in the West Mr. Robey attributes to several causes. There are now fewer dealers and jobbers in that section than is the case in the East and as a result those that remain get the business that formerly fell in small bits to a much greater number. The Western market is also remarkably clean of job lots and price cutters, in fact Mr. Robey said that job lots were practically unsalable west of Buffalo. Buffalo and New York City are practically the only places of importance that now hold any hope or comfort for the man with old goods to unload.

When his statement that there were now fewer jobbers in the West than in the East was questioned, and a number of fairly well known houses were named, Mr. Robey replied:

"Oh! those are what we term 'wholesalers.' We do not call any one a jobber who travels five men or less. Many of the 'wholesalers' buy of us. There are really but three big jobbing houses in the West."

Tubing is a considerable factor in the Excelsior stock, and being in touch with many cycle manufacturers, Robey gives it as his opinion that one-inch tubing will generally prevail next year. In tires he says that while their sales of both single and double tubes have increased, the greatest percentage of increase is in the latter.

Retiring Dealer's Troubles.

The law is a great institution. It is called on to settle many vexed and disputed questions, and it is always found competent to cope with them, no matter how complicated they may be.

This was illustrated the other day in the case of Albert E. McDaniel, of Wilmington, Del., who, worsted by the bad weather and other untoward circumstances, and handicapped by very insufficient capital, was about to give up the struggle and close his store. His stock had been reduced to a very low ebb, and consisted principally of a lot of sundries that had been sent to him on

consignment by a jobbing concern in Philadelphia.

Being perfectly honest, as are most of his class, the unfortunate dealer had gathered these consigned articles together, preparatory to shipping them back to the consignor. This done, he expected to wash his hands of the business and seek other employment.

Unfortunately, or fortunately, according to the viewpoint, the dealer had a landlord who was looking for some arrears of rent. Getting wind of the contemplated closing, the latter appeared on the scene and speedily got the hang of things. Accordingly he seized the consigned goods and made preparations to have them sold to satisfy his claim. Thereupon the owner of the goods came down and tried to replevin them. Failing in this, he turned on the dealer and threatened to sue him for larceny.

It was a pretty question to decide. But, as hinted, the law was prepared, and it said that the consignor and the landlord must fight the matter out; the consignee, being innocent in both intent and act, could not be made to suffer in the matter.

So the legal battle is going on, with the chances all in favor of the landlord.

Canadians in Australia.

The Canada Cycle and Motor Co., which embarked in the export trade about a year ago, and which has apparently made Australia its chief objective, is now figuring on manufacturing out there. Late Australian papers contain its advertisement for a building in Melbourne containing at least "10,000 square feet of floor space, exclusive of stairways, lifts, etc., the buildings and floors to be of such construction as to stand the strain of heavy presses, lathes, steam drop hammers and screw machines." The Canada Co. already maintains two depots in the colony, one in Melbourne, the other in Sydney.

Calver Gets his Discharge.

William C. Calver, of Philadelphia, Pa., individually and as a copartner with Edward S. Allen, late trading as the Allen Indicator Glass Gauge Co. and the Verticle Bicycle Mfg. Co., was discharged as a voluntary bankrupt in the United States District Court on Friday last.

Wilson With Rubber Goods.

J. C. Wilson, who some three months since resigned the secretaryship of the Hartford Rubber Works Co., to accept the general management of the Seamless Rubber Co., has relinquished the latter position for an important post in the Rubber Goods Mfg. Co. He will be located in New York.

Stratton's Store Closed.

The retail store of the Stratton Motor Bicycle Co., New York, has been closed after a brief existence. J. Overton Paine, the Wall Street broker, who backed the company, is in a peck of trouble, attachments having been levied upon him.

at a price within 5 per cent of the cost of such a bicycle bought in lots of 5,000.

To carry at all times a complete line of parts, tires, sundries, etc., etc., so that we can make prompt shipments. Such goods can be secured by all members at 5 per cent above the jobber's cost.

To secure options on all job lots for the benefit of our members, only taking those that our members can handle.

Advantages: No stocking up on the part of the dealer in order to secure price. Price will be the same on one as on one thousand.

By carrying large stocks prompt shipments are assured, thus preventing loss of sales to you.

No bicycle dealer can secure one dollar's worth of goods from this company unless he is a member of the company in good standing.

It means that every member will become a jobber in his own vicinity.

Membership: Incorporated under the laws of Maine. Stock non-assessable.

A stockholder agrees with the company to take ten shares of stock and pay for same in ten monthly instalments of \$25 each.

The whole amount paid in by any stockholder is withdrawable at any time by giving thirty days' notice, and the whole of the money paid in returned to him.

A stockholder can secure credit up to the amount of stock he has paid for.

On the first Tuesday in August a stockholders' meeting will be held, when dividends will be declared. Stockholders to be the dealers in large cities and towns.

An applicant for associate membership must be voted in by the board of directors.

He pays an annual fee into the company of \$25 per year, payable in five monthly instalments, beginning September 1 of each year. Any applicant being accepted after January 1 of any year must pay the \$25 membership fee, in full, together with such bonus as the directors may determine.

The associate members receive all advantages of a stockholder except credit and dividends.

Neither the Facts nor Figures Lie.

Will the British cycling press men ever permit the facts regarding the iniquitous American tariff to percolate into their craniums, we wonder? The duty on bicycles was never less than 35 per cent. It was 45 per cent when importations of British machines reached their height, and the total extinction of the trade came without there being the slightest change from this figure.

A. B. C. Bonds Advance.

On Tuesday sales of 10,000 American Bicycle bonds were made at 65—an advance of 5 points. The stocks, however, still sag. Preferred is quoted at 8 bid, 10 asked, and common at 2 bid, 3 asked.

"The Motor: What It Is and How It Works." See "Motocycles and How to Manage Them." \$1. The Goodman Co., Box 649, New York.

WHY NO CANDLE LAMP

Surprising and Unexpected Obstacle That Caused Abandonment of 1902 Novelty.

Although carefully guarded for several months, it is now no longer a state secret that the Badger Brass Mfg. Co. had a bicycle candle lamp in prospect for next season. But the prospect has vanished, and the reason for it is so unusual that it will doubtless stagger the average American, who is prone to believe that nothing is impossible in this country.

R. H. Welles and L. J. Keck, of the company, were in New York last week, and when the *Bicycling World* man inquired about the candle lamp they both smiled.

"It's all off; we couldn't get the candles," was the terse reply, and they seemed to enjoy the amazement it created.

"No, sir," they went on, "the candles can't be had in this country. It may be astonishing, but it's true just the same, and we ought to know. When we learned that a special candle was required we went to the Standard Oil Co. and got them so worked up about it that they called in the heads of their departments. The matter was thoroughly threshed and gone into, and it was found that the proper ingredients could not be had this side of Denmark. To import the material would make the cost of the candle prohibitive, and as a result we were forced to abandon the lamp."

"Then the difficulty is too great to be overcome?"

"If any one wants to try it," replied Welles, with a smile, "they're welcome to it and have our best wishes."

When the Solar people and the Standard Oil Co. acknowledge themselves outdone, the extent of the obstacle may be well imagined. To most cyclists the failure, and indeed the idea of a candle lamp, will count for little. But the idea is one that improves on consideration. As a "lazy man's lamp," one that gives no trouble and is quickly and cleanly made ready for a short ride, and costs but a trifle, it has merit that is not to be denied, and that would assure no small sale once its advantages were pointed out.

Passing of a Pioneer.

There died a few weeks ago, in a little New Jersey hamlet not far from Newark, a man whose name was formerly known to cyclists all over the land.

Reference is made to Howard A. Smith. In the very early days Zacharias & Smith were local dealers with more than a local reputation. Oraton Hall, Newark, was their headquarters, and in addition to doing a good retail business they "jobbed" cycle sundries and specialties all over the country.

The business was more famous than profitable, however, and Zacharias, grown weary of waiting for the "boom," dropped out. Smith continued under the name of Howard

A. Smith & Co. In its own good time the "boom" came, and at one period it looked as if Smith might make a fortune out of it. Various causes, however, put this out of the question. In the early nineties he imported English machines on an extensive scale, and when their day passed he began the manufacture of an American "Excelsior." The venture did not turn out well, and may be said to have laid the foundations for Smith's ultimate failure.

His business gradually dwindled away, and he quit at last quietly and almost unnoticed. For several years he had been completely forgotten. Death was caused by lung trouble.

When Cushioned Motor Bicycles Come.

"When the cushion frame motor bicycle comes along—as it is certain to do before many years have passed—then I shall get in line for one of them," remarked an old rider to the *Bicycling World* man.

"There's a chance for some designer to score a big hit," he went on enthusiastically. "Just think what it would be to ride such a machine! No jarring or jolting, no hard work to tire or heat one, no anxiety about getting either up or down the hills! Just think what all that means!

"I well remember my experience, years and years ago, on an old spring frame Rambler. It was at its best on hilly roads, and the rides down hill were almost perfect bliss. To strike a long, winding road, with enough drop to it to keep the machine going at a good gait, and put one's feet up on the rests and 'let her go' was an experience not soon to be forgotten.

"But this could not endure forever. The bottom of the hill was always reached too soon, and the up grade, that was always encountered as if to act as a set-off to the decline, had to be reckoned with. It was surmounted only after a great deal of genuine hard work, and the spring part of the machine, which had previously appeared to be a blessing, was now voted just the reverse. It 'ate power,' as the pet phrase of the day had it, and all the pleasure of the coast was spoiled by its shortcomings.

"Now, just imagine what a cushion frame motor bicycle would be. It does not eat power like the old spring frames, even when applied to an ordinary bicycle, and in the case of one with a motor attached there would be plenty of power.

"Therefore, its enjoyable features alone would be felt. A perpetual coast could be had, and we all know that nothing in the world could surpass this phase of cycling.

"That's why I am waiting for some bright genius to bring out a motor bicycle with a cushion frame. It may not come for a year or two, but it will do so some time; and when it does I want to have a look at it."

Judgment Against Mesinger.

Judgment for \$312 against the Mesinger Bicycle Saddle Co., in favor of the City of New York, was recorded on Monday last.

AGAINST THE STRIKERS

Iver Johnson Workmen Pass Resolutions Denouncing Contract-Breakers.

It is hardly likely that after last week's action the striking polishers formerly employed at the Iver Johnson Arms and Cycle Works will continue to trouble the men who took their places.

Matters were moving quietly in the factory, the strikers' places having been filled and the new men being entirely satisfactory. But the latter were annoyed after working hours by the men whose places they had taken, who neither work themselves nor let any one else work—if they could help it. They finally became so obstreperous that the new men had to ask for an escort of police to protect them on their way to and from work.

Upon this it was felt that some action should be taken. As a result, permission was obtained from the superintendent to hold a general meeting of the employes in the factory, and a large attendance was obtained. The following resolutions were unanimously adopted:

Whereas, Certain men formerly employed by the Iver Johnson's Arms and Cycle Works, for the purpose of inducing the present employes to violate their agreement have resorted to means and methods which to us seem to be unwarranted and wholly without reason; therefore be it

Resolved, That the present employes of the Iver Johnson's Arms and Cycle Works, in meeting assembled, do hereby disclaim all sympathy with these former employes or their methods, and we tender to said company our cordial and hearty support in the present emergency;

Resolved, That we agree to give the Iver Johnson's Arms and Cycle Works our best endeavors for the proper and successful conduct of their business;

Resolved, That a copy of the foregoing be published in the daily papers.

Ferguson Will be Manager.

The Auto-Bi Co., of Buffalo, which has taken over the motor bicycle business of the E. R. Thomas Motor Co., as reported in last week's *Bicycling World*, will, temporarily at least, occupy quarters in the Thomas factory. E. L. Ferguson, who has been prominently identified with the Auto-Bi, will manage the new company and have as able seconds George W. Sherman and E. J. Edmond, who have been associated with him in the good work. The Thomas Co., as was previously stated, will hereafter confine itself exclusively to motors and guarantee them to the user—a most important and far-reaching decision.

Phil B. Bekeart, the San Francisco jobber, has joined the retinue of Frisco buyers who are visiting New York.



W. S. Fenn
On a National.

AMATEUR CHAMPION 1900

THAT "little blue wheel" TAKES THEM TO THE FRONT

July 21st Fenn at Vailsburg, N. J., beat Gascoyne the English champion in a five mile pursuit race in a little over 3 miles.

July 22nd, Fenn at Hartford, Conn., did it again on his "little blue wheel" in a little over 2 2-3 miles. :: :: :: ::

In commenting on the latter race the Hartford Courant of July 23rd, says:—"Gascoyne has recently come across the water and has a high reputation for speed and endurance. He has never been defeated in an unpaced race in England." :: ::

NATIONAL RIDERS ARE WINNERS

WRITE US ABOUT "the little blue wheel"

NATIONAL CYCLE MFG. CO.
BAY CITY, :: :: :: MICHIGAN

GET OUT YOUR WHEEL.

Perhaps you laid it away during the hot weather, but now that the fall is here, cool days and moonlight nights, much riding will be in order.

If your tires are well worn, better replace them with a pair of

FISK TIRES.

No tire made is so easy-riding, so impervious to jolt and jar, so long-wearing and so serviceable.

The wheelman who rides Fisk Tires will have nothing but good to say of them, the dealer who sells them will not be greeted with complaints and disgruntled looks every time he turns around.

BRANCHES:

SPRINGFIELD; NEW YORK, 99 Chambers St.; SYRACUSE; BUFFALO;
DETROIT; CHICAGO, 54 State St.; SAN FRANCISCO, The Phil B. Bekeart
Co., 114 Second St.

REPAIR DEPOTS:

105 Reade St., New York, N. Y.; 168 Oliver St., Boston, Mass.;
1015 Arch St., Philadelphia, Pa.

FISK RUBBER COMPANY

CHICOPEE FALLS, MASS.

THE BICYCLING WORLD

FOUNDED 1877
and MOTORCYCLE REVIEW

In which is Incorporated
the "The Wheel" and the "American Cyclist."

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Change of advertisements is not guaranteed unless copy therefor is in hand on SATURDAY preceding the date of publication.

Members of the trade are invited and are at all times welcome to make our office their headquarters while in New York; our facilities and information will be at their command.

To Facilitate Matters Our Patrons Should
Address us at P. O. Box 649.

NEW YORK, OCTOBER 3, 1901.

This Year and Next.

As the trade takes account of causes and effects, the retrospection is undoubtedly making for a better and brighter view of the future. Generally speaking, the trade has recovered from its attack of "blues"; many of those whose utterances less than sixty days ago fairly dripped indigo have realized that there is a reason for everything, and with the realization they have regained their spirits and are looking hopefully and cheerfully toward next season.

While the gloom was thick, few saw or cared to see that the causes that unfavorably affected the cycle trade affected nearly all other industries. The average tradesman was prone to consider only his own condition. Having "troubles enough of his own," he thought not of those of others, and "cared not to reason why."

That the season was one of unusual promise is not to be gainsaid. That it fell far short of the promise we all know, but calm

consideration proves it was Fate, not Folly, that dictated the result.

Fate in this instance assumed several guises. First came the weather, then followed labor strikes. The weather was, of course, the chief cause of the trade's discomfiture. It always has been; it always will be. The fact is known, and can not and should not be overlooked. Few industries are so greatly affected by weather conditions. The condition of the weather reflects the condition of the bicycle business. A week of bad weather means a week of bad business; a month of bad weather means a month of bad business; a season of bad weather means a season of bad business. Bad business means depression not only of finances, but of spirits; and when the depression is wide in extent not only the present but the future is colored accordingly, and both are damned without discrimination.

This year we had not weeks nor months of bad weather, but a season of it, and the badness was unusually and damnably bad. The rainfall was abnormal. It fairly drowned the spring trade. The rain was followed by waves of intense heat that half baked the summer business. Then came the labor troubles, and while most of them came after the damage had been done they still figure as a minor factor that rounded out the general bad result.

Such conditions are abnormal. They do not occur once in a decade. The time cannot be recalled when the cycle trade was so hard hit on every side. It is reflection of the sort that has brought many wailing and pessimistic tradesmen to their senses and dissipated the "blues" that caused them such long continued dejection.

With the clarified vision it is now possible to obtain a glimpse of the silver that was behind the cloud. It is not within belief that two seasons of such weather will follow each other, and as we know that the year 1901 was distinguished by the number of deferred intentions—of decisions to "put off buying a bicycle until next year"—it is fair, it is reasonable, to believe that the cycle trade's collection of these mental "promissory notes" next spring will be on a large and satisfactory scale.

One thing is reasonably certain: The season of 1901 was so bad that none that is to come can well be worse. Perforce, all makers and dealers who survive must now be possessed of an ability to so "trim sail" as to weather any storm that may blow.

The shrunken and constant shrinking of "job lots" and of the trade carrion that live

articles as are placed within his grasp, his knowledge that he must not merely keep them for sale, but must bestir himself to sell them; his appreciation that "things have changed" and that booms are unlikely, his realization that the bicycle is now almost a staple article, and that the bicycle business does not differ radically from all other businesses—all these are factors that make and are making for a better, brighter and more substantial future which we all have right and reason to anticipate, and which are making for ripe reaping in the season just ahead.

One Way of Working.

As bearing on the contention we have so often made, viz., that country trade is especially desirable, the opinion of a veteran dealer located more than fifty miles from any large city is decidedly interesting.

The presence of a very large number of machines of a certain make in the vicinity of this town led us to make inquiries recently regarding the matter.

We found that the dealer in question occupied a peculiar position. He devoted a great deal of attention to the cultivation of rural trade, and the result spoke for itself, as stated. But in the town itself he spent very little time. What business there was there he left to his competitors, who accounted for nearly all the machines sold.

The knowledge thus acquired but whetted our desire for more. The dealer was therefore sought, and asked for an explanation.

He had no hesitation in giving this. In former years, he said, he had fought for the town trade and got his share of it. But there was not enough of it to make it profitable on the basis on which it was conducted. More effort was required to make a sale than it was worth, or concessions had to be made to land it, and the result was that the profits shrank alarmingly.

Having learned all this to his sorrow, he had looked about him to see if he could not better matters elsewhere.

He found his opportunity in the rural districts. There competition was not developed to the ruinous point, cheapness was not the chief quality desired in a bicycle, and the percentage of loss was extremely small. Buyers were cautious and wanted full value off of them, the increased and increasing discrimination of individual purchasers, the increased and increasing acumen and aggressiveness of the dealer in reaching out for trade, in fighting the carrion and in making the most of his opportunities and of such

for their money. But they were willing and able to pay for the best.

As a result the dealer had gradually come to give almost his entire attention to this class of trade. He had nothing to complain of this year, in spite of the bad weather, and had the latter not interfered he would have done unusually well.

Best of all, he looked forward with unabated confidence to the 1902 season. His field was still a fertile one, and with the proper cultivation it would continue to yield good returns.

The soundness of this position can scarcely be questioned, and it will pay other dealers similarly situated to look into it.

Making the Mountain Labor.

In this country, where, were it not for coaster-brakes, there would be practically no brakes in use on bicycles, the fuss and feathers of the French brake test, as detailed in our Paris letter, appears not unlike a serio-comic performance.

Our Paris correspondent, a particularly sane and well informed man, makes it plain that there was a mighty straining at gnats; but, as he points out, the plastic French mind is apt to be deeply impressed by the profound deliberations and decisions of a committee of such learned professors of science. The result may return to the hurt of the American trade in that the impression is calculated to create distrust of coaster-brakes, which are but just attaining a degree of favor in France.

The committee's report betrays what nearly all such reports betray—a superabundance of labored science and a scarcity of regard for normal conditions. The number of cyclists who traverse mountains to reach their meals is so infinitesimal as to be scarce worthy of consideration.

The *Bicycling World* is an advocate of brakes, and hailed the coaster-brake as a means that required cyclists to employ them despite a contrary inclination. But for the life of us we cannot understand the astounding predilection of foreign cyclists to litter and encumber their mounts with the unseemly and to us unnecessary collection of wires, rods, levers and the like that foreign brakes call into use.

We do not believe that Americans have a monopoly of either courage or foolhardiness, and yet they find the neat, compact and invisible coaster-brake ample to meet all requirements, when, indeed, they employ any brake at all. We ourselves have toured in England, and have ridden from one end of

France to the other, and far into the more mountainous republic that adjoins. Coaster-brakes were then unknown, but we recall no mountain pass that was too steep or too long to be safely negotiable with even the simple hand brake then in general use. We met dozens of wheelmen of other nationalities who were but similarly equipped, and who had no thought of danger.

Can it be that the latter-day French and even British cyclists have less nerve and are more fearful than the generation that preceded them?

It is difficult to believe anything of the sort, but from this distance it does appear that they are slaves to "If." They seem to figure the direful results that might occur "if" this, that or the other part of their bicycles broke or went wrong, and to accordingly rig their mounts with all manner of preventatives. Suppose the tide did set toward rim brakes! What would happen "if" a wire twisted or a rim broke? The suggestion bulges with dreadful possibilities. It argues that rim brakes are not enough!

If French cyclists are as clearheaded as they should be, the report of the grave and learned professors who set themselves to discover faults, and, of course, found them, will prove of small effect. They will readily see that the wise men have made a mountain out of a molehill, and then made the mountain labor to bring forth not one mouse but a litter of mice.

To the wheelman who does not ride with the imp If perched on his bar or his bracket, his rim or his hub, the coaster-brake will prove the surest, quickest, cleanest and neatest promoter of safety and pleasure it is possible to obtain.

Effect of Motor Guarantees.

The move of the E. R. Thomas Motor Co. in transferring its motor bicycles to others and in resolving to confine itself solely to the manufacture of motors is interesting, but relatively it is of small importance compared with the announcement that accompanies it, i. e., that henceforth the Thomas Co. will guarantee its motors to the users exactly as tires are now guaranteed.

Many months ago the *Bicycling World* discussed the probability of such a state of affairs coming to pass, and the Thomas Co., having now "cast the die," it is plain that the movement is fairly inaugurated and in a fair way of general adoption, since manufacturers of competing motors can scarce refuse to do likewise.

Action of the sort should prove a distinct

impetus to the manufacture of motor bicycles. It is certainly calculated to decide and win over not a few bicycle makers who have been full of hesitancy and doubt—those who, while anxious to catalog a motor bicycle, were deterred by thoughts of "motor troubles" and who preferred not to "take the chances."

With motors guaranteed by their makers direct to users, a great load of responsibility is lifted off of the bicycle manufacturer and his way made simpler and safer. A clause in his catalog—"Motors are guaranteed by their makers, on whom all claims should be made"—and the cycle maker shifts the onus from his shoulders, and it is assumed by those whose specialty is the construction and care of motors and who are best fitted to explain and "make good" to the user.

The Thomas announcement is thus not of localized or of individual interest, but of trade-wide and far-reaching influence. It marks the beginning of a movement of no mean importance.

Now that a high official of the American Bicycle Co. has made affidavit that that concern "would not turn a hand to prevent the repeal of the tariff on bicycles," possibly our brethren abroad who foam at the mouth when the tariff suggests itself to them may begin to see the obnoxious imposition as it is viewed by American eyes. If Colonel George Pope had gone deeper into the subject we believe he would have agreed that if the tariff serves any purpose at all it is to make harder the sale of American bicycles abroad, particularly in those countries which compete with us.

As far as outward signs go, the 1902 season is almost as far off as it was six months ago. Does the deep silence that prevails mean that there will be no changes to speak of next year? Or have the secrets of the designing room been so well kept that nothing has leaked out? The curiosity that is felt on the subject must be curtailed for a while longer, however.

The New England retail pool will now compel the attention of even those skeptics who maintained that it deserved none. It has become distinctly what we term "a living factor in the trade."

It looks mightily as if the sun of the "job lot" had set forever and aye. Amen!

TESTED 33 BRAKES

Seeking a "Mountain Brake," French Scientists Reach Conclusions More Elaborate Than Rational—Coaster-Breaks Involved.

Paris, Sept. 13.—As the free wheel is coming into increasing use in this country, a great deal of attention is naturally being given to the efficiency of the brakes, and in the hope of settling upon the best systems for bicycles intended for mountainous regions, such as we find in a good many parts of France, the Touring Club recently carried out a series of experiments.

They appointed a committee of six experts, comprising MM. Appell, member of the Institute and professor of rational mechanics at the Sorbonne; Koenigs, professor of experimental mechanics at the Sorbonne; Forestier, Ferrus, Perrache and Carlo Bourlet, who are all recognized authorities on mechanical road traction and the application of brakes to road vehicles. The committee is certainly a very strong one, and its conclusions cannot fail to be of great technical interest; but we may suggest whether such a body is entirely qualified to decide finally upon a question of cycle mechanics, and whether it would not have been better to add one or two cycle engineers. The reason we ask this will be seen when we come to deal with the committee's report.

THIRTY-THREE CONTESTED.

The sites fixed upon for the tests were two steep mountain roads near Grenoble, one from Chambéry, near the Chartreuse, to Grenoble, and the other the famous gradient from Laffrey to Vizille. Thirty-three firms entered, with thirty-six different devices, and of these thirty-three were present on the first day of the tests, as follows: Bowden (rim brake), B. S. A. (rim brake), Peugeot (rim brake), Stopp (rim brake), Excelsior (rim brake), L'Ardennais (rim brake), Cosset (band and rim brakes), Farewell (band brake), Terrot (band and rim brakes), Pechard (band brake), Le Merveilleux (band brake), Maquet et Debon (band brake), Lefevre (band brake), Rasinier (band brake), L'Extensible (band brake), Morrow (hub brake), Hocquart (band brake), Franeuf (band brake), W. B. (hub brake), J. S. G. (hub brake), Automoto (hub brake), the Tourist (hub brake), N. S. U. (hub brake), Noel (band brake), L'Aigle (hub brake), Eadie (band brake), L'Archimede (rim brake), Lehut (band brake) and Carloni (rim brake). L'Archimede withdrew from the competition, as the brake was not in good working order.

FIFTY PER CENT. FAILED.

The first day's test consisted in the descent of the mountain road from Chambéry, which could only be done safely by putting the brakes on all the way. The journey was done in three stages, from the Col de Frene to the Col du Cucheron, then to the Col de Porte, and finally to the bottom. In the

first stage twenty-nine got down without trouble out of thirty-two starters. On the second stage no fewer than eight brakes failed to act properly, and on the last descent four more were disqualified, so that only seventeen, or about half, succeeded in getting to the bottom without being put out of service. This 50 per cent of failures is enough to make any bicycle manufacturer pause and think. No one could have anticipated such a collapse of brakes, even down ten or twelve miles of the steepest mountain road.

ONE OF THE TESTS.

Several of the successful brakes showed signs of wear and tear, but nevertheless they were allowed to take part in the second experiment for testing their stopping efficiency. They were started at the top of a gradient and allowed to go down by their own weight, and when they had got up a speed of about sixteen miles an hour a signal was given to stop. One of the brakes broke, and sixteen succeeded in stopping, though the Cosset (rim), L'Extensible and Carloni travelled at much beyond the limit after the signal. This limit was fixed at thirteen or fourteen yards, and if stopping within this distance no account was taken of the differences in the performances of the brakes, as the committee held that this depended largely upon the skill of the riders. The best performances were done by competitors who stopped gradually, while those who blocked their wheels immediately skidded a considerable distance and naturally ran the risk of damaging their tires, to say nothing of the possibility of taking a headlong flight over the handle bar.

THE SIXTEEN SURVIVORS.

The last descent was from Laffrey to Vizille. All the remaining sixteen competitors did this satisfactorily. The committee then examined the machines and had the brake mechanism taken to pieces, and afterward decided to award diplomas to all the sixteen competitors as follows: Terrot (rim), Rondier (Excelsior), Floquart, Carloni, Brown (Bowden), Hogge (L'Ardennais), Cosset (rim), Dunois (Stopp), Brown (B. S. A.), Peugeot (rim), Rassinier, Brankovitch (W. B.), Collé (Farewell), Leroux (Hocquart), Bochmé (L'Aigle), Monté (L'Extensible).

RIM BRAKE AWARDED LAURELS.

In commenting upon the tests the committee is of the opinion that the rim brake showed an unquestionable superiority over every other form, as they all acted efficiently and some of them looked as if they could have gone through the same tests ten times over without its being necessary to change the brake pieces. The larger the surface of resistance the greater, of course, is the efficiency of the brake. A point in favor of wood rims is that there was very little heating, while in the case of the metal rims the heating was most noticeable and increased in the case of polished or nickel plated rims, which are largely used on this side to avoid any destructive action of the brake on enamel. There was nothing to show, however,

that this heating was likely to have any bad effect on the tire, though it might possibly do so in course of time, but in any event this could be avoided by placing a layer of felt between the air chamber and the rim. Two methods of fixing the rim brakes were employed—in the one the two brake pieces of hard fibre, leather blocks, or other material moved vertically against the rim and therefore it was necessary to keep them at a sufficient distance apart to prevent their coming into contact with the spokes and breaking them in the event of the wheel slightly buckling; in the other the brake pieces turned horizontally on a pivot so that they could be brought round against the rim, their normal position being parallel to the rim. There is consequently no danger of the brake touching the spokes, and for this reason the system is preferred by the committee.

RIM SHAPES MUST BE ALTERED.

The metal rims were not damaged by the brakes, which, however, cannot always be satisfactorily fitted on account of the unsuitable form of the rims, and makers are advised to change the section of their rims so as to give a better contact. The only kind of brakes that do not injure wood rims are those of leather, which have the disadvantage of wearing away quickly, and brakes of hard fibre cannot be employed because they result in a good deal of wear and tear on the wood.

AS TO COASTER-BRAKES.

As regards coaster brakes, all those that went safely through the three tests showed signs of heating, and the committee is therefore of the opinion that it would result in the lubricating oil decomposing and the cups and cones "detempering"; that is to say, they would be raised to a temperature that would destroy the effects of the annealing. In order to prevent seizing some of the competitors smothered their brakes in oil to such an extent that the lubricant covered the rims and tires. In the brakes in which metal acted on metal the results were better than in the others, and if there is a sufficiently large cooling surface the judges think that they would prove suitable for ordinary roads, though they may not be efficient for mountainous districts. This belief of the judges that the coaster brake "may" be suitable under ordinary conditions reads funny after the experience of America that of the thousands of coaster brakes in use not one has yet been known to fail. Brakes in which fibre, leather or other non-metallic substance acts on metal showed considerable wear and tear after the tests, and they are consequently not suitable for mountain riding unless the fibre or leather can be easily replaced.

BRAKE PRESSURE.

Another point claiming the attention of the committee was the method of fixing the brake at any desired pressure without the rider being obliged to constantly apply the pressure by hand or foot in making long descents, and moreover it should be possible

(Continued on page 16.)

WE ARE EXCLUSIVELY

MANUFACTURERS OF TIRES.

Our efforts are concentrated in the endeavor to produce the highest grade articles that can be produced.

The most successful types now for particular people who desire THE BEST are these two:—

HARTFORD SINGLE TUBE

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WE MANUFACTURE AND SELL THEM BOTH.

AND REMEMBER We could never have built such an enormous business as we have to-day had we not made each pair of tires as if our very reputation depended upon their quality.

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WHY THEY WERE LATE

Being a Story of the Endurance Contest and the Thomases Odd Experience.

To those who knew that it had been planned to start several Thomas motor bicycles in the recent New York-Buffalo endurance run, the failure of any of these to put in an appearance at the start on Monday morning was regarded as being very strange.

Four machines did start, but not on time; and thereby hangs a tale that has not yet seen the light. As told to the *Bicycling World* man by the leader of the contingent, E. L. Ferguson, it is very amusing now, although anything but this at the time.

It appears that the astute Ferguson entertained some fear of his ability to have all his men and machines ready at the appointed starting time, 8 o'clock. To guard against any failure to do so he engaged quarters overnight for the four bicycles at a store within a few blocks of the Plaza, the starting place. He had assured himself that everything was in apple-pie order, the gasoline tanks filled and every part ready to do its appointed work. With his mind set at rest on all points, therefore, he gathered the three men under his wing and proceeded to his hotel. The storekeeper meanwhile gave voluble assurances that he would be on hand at 7 o'clock the next morning.

The quartet were up betimes, and after partaking of a hearty meal they leisurely sauntered around to the place where the machines were in custody. It was only a few minutes past 7 when they reached there, but the leader believed in taking time by the forelock, and he acted accordingly.

It came as a disagreeable shock that the store was not yet open. After assuring himself of this fact Ferguson looked at his companions rather uneasily. He was of a hopeful disposition, however, so he put a good face on the matter.

"Must have overslept himself," he remarked, to no one in particular. "It's only 7:15, however, and I guess he'll be along shortly."

The three waiting ones guessed so, too, and nodded acquiescence.

"Might have had a little longer nap if we had known," said one of them, rubbing his eyes regretfully.

No reply was vouchsafed to this superfluous remark. Ferguson cast anxious glances up and down the street. He wondered where the man lived, and from which direction he would come, but in the utter absence of knowledge on either point he was unable to say. Half-past 7 rang out, and automobiles were seen hurrying along in the direction of Fifty-eighth street. Their occupants wore satisfied expressions; plainly they were all ready. Matters were not yet desperate, but the time for starting was getting uncomfortably close.

Ferguson approached the door and peered

in through the glass. There were the four bicycles, lined up and ready. But a stout oak and glass barrier interposed itself between them and their owners, who itched to take hold of them.

Time seemed to fly. A glance at his watch showed Ferguson that it was a quarter to 8, and then—it seemed only a minute or two later—a clock began to strike 8. Still no sign of the unfaithful storekeeper.

By this time the four were in despair. They had lost the start, and if they got to the official station at all it would be after everybody had gone.

Just about that time it was an even thing whether the delinquent storekeeper would have been hailed with joy or met with maledictions, with the chances slightly in favor of the latter. The motocyclists were feeling pretty bitter.



NEW YORK BRANCH: 214-216 WEST 47TH STREET.

By the time relief came, however, they had had time to pass from this mood to one of despair again. It was close to 8:30 when Mr. Storekeeper came along. Between their anxiety to get their machines and be off, and their righteous desire to give the man a "wiggling," they were in a predicament. They compromised finally on doing as much of the latter as they could without delaying their departure.

And that is why people at the start wondered what had become of the Thomas machines.

Cuban Tax 20 Per Cent.

Under the new Cuban tariff which went into effect on the 1st inst., "velocipedes, bicycles and detached parts and accessories thereto, including bicycle lamps," must pay an ad valorem duty of 20 per cent. As the Cubans themselves take the government into their own hands in May next, there is no telling how long the figure may maintain.

"Motocycles and How to Manage Them"; 126 pages, 41 illustrations; cloth bound. \$1. The Goodman Co., Box 649, New York. ***

WHAT CAUSED THE TROUBLE

An Illustration of the Little Things That Should not Vex the Motocyclist.

"It is nearly always the little things that give us trouble with motor bicycles," said a dealer who has had considerable experience with such machines this year.

"The big things—such as the motor itself, that is, the cylinder, the compression, etc.—take care of themselves. It's the plagued little things that cause us to grow gray or baldheaded. My motto now is to look for the most trivial and least suspected ills when anything goes wrong. If you can only find them you can put the machine to rights in a jiffy. The trouble is to locate them. You've got to do this by intuition almost.

"I started home the other night," he continued, "and had an illustration of this. It had been raining, but stopped just before I started. The roads were rather heavy in consequence, and after a little while the machine, which had been going finely, began to drag, especially if a grade was encountered.

"Everything about the motor seemed to be all right. But I had been fooled too often to trust to first impressions in a matter like this, and I jumped at the conclusion that there was something wrong about the valves. However, it was dark, and I had but a little over a mile to go and was anxious to get home. So, after seeing that to all appearances the valves were working properly, I slipped the driving belt off and pedalled the machine the rest of the way.

"It was not much of a job, the distance being so short, and I did not mind it at all as far as the labor went. But it did rile me to be left in the lurch this way, and I was very anxious to see what the trouble was. Therefore I got up a little earlier than usual in order to have a look at the machine.

"It was just as I thought. I had no sooner put the belt on, making it good and tight, and started the motor, than I saw what was wrong, or rather what had been wrong. The machine now ran perfectly; the explosions came regularly, the driving was perfect, and I took a little 'teaser' of a hill in fine style.

"Then it came to me like a flash. The dampness in the air, combined with the heavy roads, had made the belt stretch the night before, and instead of gripping the pulleys it had been slipping. I had not noticed that it was slack when I took it off, but I saw that I had to screw the idler pulley up much higher, and the belt was consequently much tighter.

"I ought to have suspected the belt the first thing. But it does seem that the most obvious thought is the one that never comes to us. I made up my mind then that in future I would first decide what was the most unlikely thing to be giving trouble, and then see if the fault was not there. Four times out of five I would be right, I feel sure."

Fittings That Fit.

THE CROSBY COMPANY . . .	Sheet Metal Parts.
SPRINGFIELD DROP FORGING CO .	{ Springfield Wrenches, Snow Chains, Forgings, <small>Machined and Rough</small>
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CLEVELAND HUB CO.	Hubs.
TOLEDO MFG. CO.	Forksides and Stays.
UNION MFG. & SPECIALTY CO. .	Tools and Specialties.

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DON'T TRUST TO LUCK

All Other
Coaster=Brakes
are in
One Class—
the Questioned Class:

The
"Is-it-as-good-as-the-Morrow?"
Class.

The Morrow is in a class by itself—
it is unquestioned and unquestionable—
Merit, proven by the test of time, placed it there and proved it true.

"HOLD FAST TO THAT WHICH IS TRUE."

EXPERIMENTING ON YOUR CUSTOMERS IS RISKY BUSINESS.

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WILL GO IT ALONE

Motors Decline to Mix With Cycles—Double Tremblers and Water Cooling.

London, Sept. 21.—On Thursday last what was supposed to have been an important meeting between the Cycle Trades' Protection Association and some of the leading motor car manufacturers was held in London. The meeting was not a large one, notwithstanding the circular which had been sent around explaining the objects of the gathering.

Frank Bowden, the president, in opening the proceedings, said that the object was to effect a strong combination between cycle makers and motor car manufacturers, with a view to mutual protection in the matter of patents, etc. There were also many other spheres of usefulness for such an association as the proposed one. He moved "that it is desirable that the motor trade should amalgamate with the cycle manufacturers' association on the same terms as other members joining that body, and that the title itself should be altered to the Cycle and Motor Trades' Association."

It was then pointed out that the meeting was so small that it could hardly be looked upon as a representative one, but the chairman said that he had previously interviewed a number of the leading motor car makers, who had all expressed opinions favorable to the scheme now set forth. A Mr. Mann, who has apparently a most unhappy knack of stroking everybody's back the wrong way, proceeded to speak against the motion, and alluded in disparaging terms to the cycle trade and to the skill of the cycle maker. He thought that the matter of supporting one show had recently been settled by the motor trade. They could not now support the National Cycle Show, nor was it advisable for them to do so. The meeting then became rather stormy. Mr. Starley came to the rescue, and peace was restored for a short time.

Mr. Friswell wanted to know what inducements were offered to the motor trade, and Mr. Shippey said that if the Cycle Trades' Association wanted to take motor makers under its wing it had better confine its attentions to the makers of motorcycles. Mr. Edge supported the motion, and said he was not aware that there was at the present time any association of motor manufacturers. This raised some rather forcible comments. Finally Mr. Mann proposed an amendment to the effect "that the Cycle Trades' Association continue, as it does, to represent the cycle industry, the Automobile Trades' Protection Association representing the motor industry, and that both associations continue in their efforts to promote such interests as are common to each." This was carried by six votes to five, but was not put as a substantive motion.

Stocktaking is now over at the Coventry factories, and the manufacturers are turning all their attention to the production of the new patterns for 1902. Most of the firms are seriously considering the adoption of one or other type of motor bicycle, but few, if any, are contemplating making their own motors. The same applies in cases where motor tricycles are receiving attention, but apparently the trade in these machines has not been sufficiently brisk to cause a rush on the part of the cycle making firms. This is the case in a still greater degree with quads, the general opinion being that such machines cost nearly as much as small cars, and are not quite so salable. I am not at all certain that this view is right, for there is the housing question to be considered, and this is always a very important point with dwellers in towns, and very often for those who reside in the more popular suburbs. The quad has a decided advantage over the smallest car in this matter.

The reduction which has recently been made in many of the parts of De Dion and similar motors will mean that the trade in these engines will increase rapidly. Every few dollars which can be saved insures more purchasers and more manufacturers willing to incur the outlay as an experiment. When the cost of the motor was so high that it left little or nothing in the profit line after the machine had been built and put together the average cycle manufacturer looked upon the experiment as altogether too risky. At best he thought it a gamble, but when he realized that, supposing his machine proved a success, he could barely get a living profit out of it, he not infrequently decided to leave motor "assembling"—for such the trade at the present time really is—alone until competition reduced the prices of the essential parts to a figure which allows a profit to be made.

The adoption of water cooled heads is spreading very fast, and I constantly see machines on the road which have been thus altered. The increased power is very marked. A friend of mine who has had such a head fitted to a 1¾ horsepower De Dion tricycle tells me that this, in conjunction with the double ignition device which I recently described, has wonderfully increased the effectiveness of his mount, and that he can often run away from 2¼ horsepower machines. This must be so, for he frequently uses a trailer, and I have seen him take a passenger up hills of one in twelve and not be called upon to assist the motor by pedalling. It therefore follows that some bargains can be had, as 1¾ horsepower tricycles can be bought very cheaply. The conversion does not cost much, and the owner thus becomes possessed of a fairly powerful and fast machine at much below the usual market price.

A great many people are now experimenting with motor oils, and most of the oil firms here are giving attention to the matter,

many of them without meeting with much success. Some of the samples sold are simply awful. Recently while touring I had the misfortune to get some of the worst oil I have ever come across—so bad was it that I had to take the motor to pieces to clean the parts after running less than a hundred miles. Yet the oil was sold as the best, and the price certainly was the best. A great many motor troubles are due to bad lubricating oil, and a great many of the oil refiners putting up such oils are working entirely in the dark, and know next to nothing of the work which the oil is required to perform, or the temperature at which it has to act as a lubricant. The heavy deposits left by some of the "specially selected" motor oils practically clog the motor in a comparatively short time.

It seems to be the general opinion here that everything should be done to discourage attempts at establishing or beating motor records upon the road. Mr. Egerton's ride from Land's End to John o' Groat's has been quoted as an example, and I sincerely trust that nobody will attempt to beat the by no means great performance. The time was not properly checked, and there is really nothing to beat. It is quite clear that, if necessary, any fairly expert motor bicyclist could cover the 800 odd miles of by no means difficult road in about half the time occupied by Mr. Egerton. We are getting a bit tired of that gentleman's motor trips on various cars and cycles, the more so from the fact that nothing very startling is the outcome. But, anyhow, motor record breaking on the public roads is decidedly to be discouraged, if only in the interests of the motor trade and the public generally.

The employment of double tremblers on motorcycles is a great saving in trouble. A friend of mine has ridden his machine over a thousand miles without once interfering with either trembler, whereas before the duplicate one was fitted he had to make frequent adjustments. It is a curious thing that some of the motor companies do not adopt this system, but so far it is rare to see a machine thus fitted. Personally, and after a thorough trial of the arrangement, I would not think of using a high-speed motor without the device.

Keeps the Lamp Upright.

To keep the lamp always in a vertical position is the object of a lamp bracket now being marketed by an English firm. It is described as being a simple affair, all that is done being to swing a vertical piece, pendulumwise, on a small pivot, attached to the ordinary lamp bracket, or complete, as desired. The lamp then slides onto the vertical swinging piece, and is held by a small projection from below. Turn the bicycle to any angle, the lamp still remains vertical. In riding the machine it is surprising that there is no lateral swing of the lamp, as one might imagine.

Important Announcement.

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the entire business and good will of the

UNITED SUPPLY COMPANY,

The

Largest Jobbing House
in New England.

Our Members and Stockholders will derive the benefits of
the purchase on and after October 1st, 1901.
All legitimate bicycle dealers in New England are eligible
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Write for particulars.

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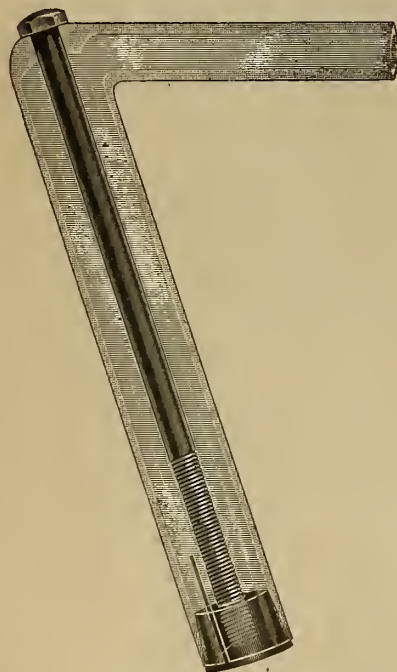
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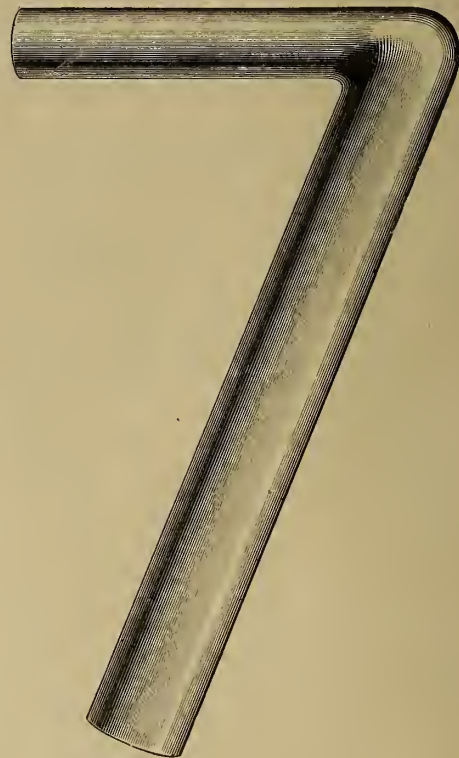
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THE ONLY FLUSH SEAT POST.



ALL

STYLES
LENGTHS OF STEMS
LENGTHS OF TOP BARS
GOOD SEAT POSTS

ARE MANUFACTURED BY US.

Send for our Catalog.

THE STANDARD WELDING CO., CLEVELAND, OHIO.

New York Office, 94 Reade Street.

'FRISCO RAISES RATES

Cycle Board of Trade Adopts a New Tar-
iff—Applies to all in the Trade.

San Francisco has raised its rates on repair work. Action was taken by the progressive and well-knit Cycle Board of Trade of that city, which includes every cycle tradesman in 'Frisco in its membership. As a result the increase applies all along the line. The new tariff, which went into effect September 10, is as follows:

TIRE REPAIRS.

Puncture, ordinary plug or Jiffy, in single tube tire.....	\$.25
Vulcanizing patch on single tube tire..	1.00
Vulcanizing patch on single tube tire, (large).....	1.25
(Above prices on vulcanizing apply also to outer cases of double tube tires.)	
Clamp valve on single tube tire.....	.75
Clamp on single tube tire, including vulcanizing old valve tire.....	1.25
Puncture proof solution in S. T. tire, each.....	.50
Puncture in double tube tire.....	.50
Puncture in Clincher tire.....	.35
Cement patch on outer case in double tube tire, and puncture.....	.75
Valve and stem on laced tire.....	.75
Valve only.....	.35
Fitting new case or inner tube, each... (Above prices include use of soft cement; hard cement, 25c. extra.)	.50
Protection strip on tire, each.....	1.25
Cementing protection strip on tire, each	.50

CHAIN REPAIRS.

Bolt .....	.10
Link put in.....	.25
Link taken out.....	.25
Nut .....	.10

GUARDS.

Chain guard only, including plain lacing	1.50
Dress guard only, including plain lacing	1.50
Chain and dress guard, including lacing	2.75
Relacing chain guard.....	.25
Relacing wheel guard.....	.50

CRANK REPAIRS.

Stock keyed crank, nickelled, and put on	1.00
Crank, upset and rethreaded, not nickelled (nickelled 25c. extra).....	1.00
Welding tip on crank, not nickelled (nickelled 25c. extra).....	1.25
Crank key fitted.....	.50
Straightening cranks, each.....	.25

FORK REPAIRS.

Complete	5.00
Fork sides and crown put in.....	4.75
One side put in.....	2.00
Pair put in.....	3.50
Crown put in.....	3.50
Stem put in.....	3.00
One fork tip.....	1.25
Pair of fork tips.....	2.00
Straightening fork sides (2).....	.75
Straightening fork crown.....	.75
Straightening fork stem.....	.75
Straightening fork sides, crown and stem	1.25
Reinforced patch in sides or stem.....	1.75

FRAME REPAIRS.

	Air dried enamel.	Baked enamel.
One new tube, upper or lower rail, in frame.....	\$4.00	\$6.00
Two new tubes, upper and lower rail.....	6.50	8.50
New centre strut.....	4.50	6.50
Two new rear tubes, one upper or lower rail and centre strut	7.50	9.50
Three new tubes, upper and lower rails and centre strut	10.00	12.00
One new rear fork.....	3.00	5.00
Two new rear forks.....	5.00	7.00
One new rear brace.....	3.00	5.00
Two new rear braces.....	5.00	7.00
New head lug.....	2.75	5.00
New head.....	3.50	5.50
One extra tube in addition to any above specifications	2.50	....
Reinforced patch.....	2.50	5.50
Rebrazing joints, each.....	1.50	....
Straightening frame.....	1.50	....
Straightening rear forks only	1.00	....
Cutting down frame and dropping crank hanger... ..	8.00	10.00
Cutting down frame only... ..	6.00	8.00
Putting in coaster hub and brake.....	\$7.50	....
Putting compound in brake.....	.50	....

CARRIAGE TIRE REPAIRS.

Vulcanizing carriage and automobile tires to 2½ inch.....	3.00
Vulcanizing carriage and automobile double patch up to 2½ inch.....	3.50
Vulcanizing carriage and automobile up to 3 inch.....	3.50
Vulcanizing carriage and automobile double patch up to 3 inch.....	4.00
Puncture, carriage and automobile double tube tire.....	2.00
Puncture, carriage and automobile single tube tire with jiffy.....	1.00
Puncture, carriage and automobile single tube tires with plug.....	1.50
Putting in new inner tube.....	4.00

AXLES.

Lathe work, per hour.....	.75
Front axles.....	.50
Crank axles.....	2.00
Rear axles.....	.75
Pedal shaft.....	1.25
Cones and cups to order, to 1 inch, \$1.25; to 1¼ inch, \$1.50; to 1½ inch, \$2; to 1¾ inch, \$2.25; 2 inch, \$2.50.	
Nuts to order, small, each.....	.35
Nuts to order, large, each.....	.50
Rear sprocket, made to order.....	1.75
Front sprocket, brazed to axle, not more than 20 teeth.....	2.50
Bench work, per hour.....	.60
Cleaning wheel, outside.....	.25
Cleaning wheel, outside and washing chain .....	.50
Cleaning wheel inside, all bearings and chain	1.50
Cleaning wheel, tandem, outside.....	.50
Cleaning wheel, tandem, outside, all bearings and chain.....	2.50
Straightening pedal pin and reassembling pedal.....	.50

RIMS.

One piece rim put in.....	2.50
Laminated rim put in.....	3.00

SPOKES.

Single tangent spoke put in (taking sprocket off 20c. extra).....	.25
Two tangent spokes put in (taking sprocket off 20c. extra).....	.50
Three spokes (taking sprocket off 20c. extra) .....	.65

Four spokes (taking sprocket off 20c. extra) .....	.75
Five spokes (taking sprocket off 20c. extra) .....	.85
Six spokes (taking sprocket off 20c. extra) .....	.95
Seven spokes (taking sprocket off 20c. extra)	1.05
Eight or nine spokes (taking sprocket off 20c. extra).....	1.15
Ten or eleven spokes (taking sprocket off 20c. extra).....	1.25
Twelve or fourteen spokes (taking sprocket off 20c. extra).....	1.35
Fifteen spokes and up (taking sprocket off 20c. extra), each.....	.10
Respoking wheel complete.....	2.50
Respoking wheel complete, with new rim	3.00
Respoking wheel complete, laminated rim	3.50
Truing wheel.....	.50
Lacquering spokes, new, each wheel..	.50
Lacquering spokes, rusty, each wheel..	.75

PRICES FOR NICKEL PLATING.

Handle bars.....	1.00
Seat post.....	.50
Nuts .....	.10
Saddle springs.....	.50
Lamp brackets.....	.25
Cranks .....	.35
Brake and lever.....	1.00
Frame	7.50
Forks, full nickel plate.....	2.50
Crowns only.....	1.00
Crowns and ends.....	1.50
Spokes, each.....	.05
Pedals, each.....	.50
Sprockets .....	.50
Chains	1.25
Hub, small.....	.35
Hub, large.....	.50
Steel rims.....	1.00

ENAMELLING.

Frame and forks.....	4.00
Forks only.....	.75
Tandem, including forks.....	6.00
Rims, per pair.....	1.00
Plain striping on frame and forks.....	1.00
Fancy striping.....	1.50
Labor	Extra

Note.—The above prices for cones, nuts, axles, etc., apply to special pieces made to order. List prices of various machines will prevail in connection with repairs thereto.

English Exports Maintain Strength.

The English cycle trade continues to maintain the renewal of strength which set in some three months since. The returns for August show a substantial increase over the record for August, 1900—£50,457, as against £40,613. For the eight months ending with August the exports attained a value of £365,177, but £9,000 behind the record for the corresponding period of the previous year.

Where Improvement is Expected.

Because of the great improvement of the streets in the City of Mexico there are those who expect a considerable increase in the demand for bicycles from that direction. To date, however, export statistics have failed to give any symptoms of anything of the sort.

"Defects (in motorcycles) and How to Remedy Them." See "Motorcycles and How to Manage Them." \$1. The Goodman Co., Box 649, New York. ***

(Continued from page 9.)

to instantly vary the pressure according to the changing gradients. No brake entirely fulfilled these conditions, as in most cases where an attempt was made to fix the pressure it took some time to release the brake in the event of its being necessary to stop the wheel or remove the pressure altogether. The system which gave the best results was that of Terrot, of Dijon. What is needed is a brake that maintains the pressure given to it by the hand and can be instantly released. The chief objection raised by the judges against the coaster brake is that it does not give such possibilities of fixing at any desired pressure as the rim brake and moreover it cannot be easily fitted to any wheel.

WIRES AND LEVERS GALORE.

All the rim brakes were classed together as No. 1, though the judges gave a preference to them in the following order: Bowden; Cosset, which has a close resemblance to the Bowden; Stopp, cylindrical pieces of rolled leather carried on a fork passing over the tire and operated by chains and bell levers; Terrot, vulcanized fibre fixed on the rear fork near the crank hanger and operated by double levers, one of which allows of the brake being fixed by a toothed sector; Excelsior, a special composition known as "camel hair," fixed on the rear stays and operated by two systems of levers, one for varying the pressure and the other along the top tube for fixing the brake; Floquart, a leather brake on the rear stays turning horizontally on an axis against the rim and operated in a way similar to the Excelsior; L'Ardennais, leather brake sliding on the rear fork against the rim, and the Carloni, a brake of special leather on the rear fork operated by a flexible shaft which is manipulated by turning the handle bar grip.

GREAT HEAT GENERATED.

Among the back pedaling brakes the first place was given to the Rassiner, which consists of a band with a number of galets or small wheels running on a drum of about five inches in diameter. This necessitates a large amount of metal, and there is consequently little liability of heating. On the other hand, there was a good deal of lateral play in the galets owing to the wear of the rivets. The W. B. brake, manufactured by M. Brankovitch, consists of a steel spring expanding against a bronze drum. In the tests the oil in which it was smothered boiled and smoked and the bearings became very hot. Nevertheless the judges recommend it on account of its lightness and simplicity and declare that it may be serviceable for ordinary roads if properly lubricated. The Farewell brake of M. Collé has a steel band acting on a steel grooved wheel mounted on the hub. The heating was so considerable that at the bottom of the descent the water poured on the hub evaporated in steam. The Hocquart of M. Leroux is a band brake with a composition known as "camel hair" acting on a steel drum. The composition was almost entirely destroyed. L'Aigle coaster brake is the only one of its kind inside the hub which

went through the tests, and this is attributed as much to the lubrication as to the mechanical accuracy of the fibrous cone, while the large amount of metal used prevented any too rapid heating. The weight of the hub is about 2½ pounds. The judges think that it is more suitable for ordinary roads than for mountainous districts. The Extensible brake of M. Montet is of novel form. It is composed of two metallic sectors covered with leather, which act on the drum by means of a screw on the horizontal tube. The drum is flanged to facilitate cooling. This, however, did not prevent the leather from being burned during the tests and there is no means of replacing it on the road. The system is complicated and the judges could only class it last among the successful devices.

COMMITTEE'S CONCLUSIONS UNSATISFACTORY

On the face of it the report is not a satisfactory one and the condemnation of the coaster brake by a committee of French experts is hardly what we could have looked forward to, and the results of a three days' test under absolutely abnormal conditions may be taken for what they are worth in view of the way in which the utility and efficiency of the coaster brake has been demonstrated by years of practical cycling experience in America and England. The value of this judgment is narrowed down considerably when it is remembered that the tests were intended to reveal the best type of "mountain brake," that is to say a brake intended to fulfil special conditions that are never once met with by the great majority of cyclists during their whole existence.

WHAT IS A MOUNTAIN BRAKE?

What does the committee mean by a "mountain brake"? Judging from the nature of the tests they are looking for a brake which will enable a cyclist to coast down dangerous mountain roads at anything between ten and fifteen miles an hour, and this, too, for an indefinite time; it may be for a whole day. But who has an opportunity of riding under these conditions? If a cyclist coasted down one mountain at break neck speed and on arriving at the bottom was immediately raised by an express elevator to the top of another mountain he would probably want such a brake as the Touring Club de France is anxious to supply him with, but under ordinary conditions we do not see how it is at all necessary.

ABSURD ASSUMPTIONS INVOLVED.

Not only is the T. C. F. looking for such a brake, but they are trying to find one capable of being fitted to any type of machine, and this was held to be a big argument against the coaster brake which was condemned on this point apart from any question of efficiency. This is absolutely absurd. No cyclist wants to buy a coaster wheel and fit a brake himself. If he has got an old wheel that is no longer efficient the best thing he can do is to buy a new one, for fitting an exceptionally powerful brake on an old wheel is like putting a new patch on an old garment, and such a bicycle would

soon crumple up under the strain. In sending out a coaster wheel the maker supplies a brake which is warranted good enough for every purpose, but he certainly doesn't look to customers putting such an enormous friction on their bicycles as to cause oil to boil in the bearings and water to steam, as happened at the tests.

"MOUNTAIN BICYCLES" REQUIRED!

If a "mountain brake" is required to give sufficient resistance to stop a wheel in a few yards when coasting down mighty peaks it is only logical that the bicycle should be built to resist these strains. A cyclist knowing the limitations of his brake will descend carefully and get to the bottom in safety, and in the old days of tire brakes we have ridden a tandem down some of the biggest mountain roads in this country without the slightest danger. There was only one spoon brake on the front wheel, which was kept at the desired pressure by twisting a handkerchief around the lever, but we didn't coast at sixteen miles an hour, or the sharp turnings would have sent us to the bottom by a short cut.

TROUBLE TEST MAY CAUSE.

By introducing the "mountain brake" it will do one of two things, either beget confidence among cyclists, who will coast on winding gradients at high speed and run the risk of their wheels collapsing under the strain of sudden stoppage, or result in the creation of a special type of "mountain bicycle," strengthened in all its parts and with large bearing surfaces well lubricated that will prevent any tendency to overheating. Whether the demand is likely to warrant the creation of such a type is a matter that needs further inquiry.

MAY AFFECT FUTURE TRADE.

We have gone pretty fully into these tests because they may have a considerable influence upon the bicycle trade over here in the future. For a long while the French looked suspiciously on the coaster brake and after objecting to it on all sorts of grounds they are now adopting it until, during the present season, quite a large proportion of the wheels in use are of the coaster variety. The way their numbers are increasing points to their becoming very popular next year. The French makers do not go in largely for the internal brake, and therefore the tests are likely to favor their own wheels to the exclusion of American coaster brakes.

AMERICAN INTERESTS AT STAKE.

If American manufacturers are to keep their trade they must do something to destroy the impression that the internal brake is ineffective. Of course, the tests relate exclusively to mountain brakes, and if the public would keep this in mind and remember that only an infinitesimal proportion of cyclists living in mountainous regions need such fittings, no harm would be done, but the results of the tests are setting the fashion for rim brakes, and it is necessary that the public should be convinced that for every use, apart from scorching down dangerous mountain roads, the coaster brake is the neatest, best and most effective equipment of a bicycle.

RACING

Taylor defeated Kramer in an unpaced match race, best two out of three, one mile heats, in Madison Square Garden September 26. In both heats Kramer had the pole and set a loafing pace. In the first Taylor begun his sprint in the eighth lap, and drawing alongside Kramer, apparently tried to crowd that rider to the inner edge of the track. On the steep eastern bank Kramer ran off on the flat floor, and in attempting to regain the track fell. The referee decided that Taylor was not responsible for Kramer's fall and awarded him the heat. On a borrowed machine Kramer made a poor race in the second heat. Taylor jumped him in the sixth lap and Kramer chased him for the remainder of the distance, drawing up to his rear wheel in the home stretch. Time, first heat, 2:53 3-5; second heat, 2:36 4-5.

Michael rode against the indoor motor bicycle paced record for three miles. He covered two miles in 3:05 and three in 4:37 3-5, establishing new records for those distances. The time for the third mile, 1:32 3-5, is the fastest ever accomplished behind single pace.

At the opening of the Trenton (N. J.) Institute Fair Association, September 30, 12,000 persons turned out to see the motors mote and witnessed good sport. The ten-mile motor tandem race between Stark and Newkirk and Newkirk and White was closely contested. Alexander and Stark were in the rear, but on entering the last lap they closed on the leaders and won by two lengths in 20:27½.

McFarland had things his own way in the ten-mile motor paced race with Kramer. Kramer was lapped at six and a half miles and McFarland won by three-quarters of a mile in 24:42. The five-mile lap race was won by Hurley in 14:25.

At Vailsburg, September 29, Michael won the motor paced five-mile match race with McFarland. The latter had trouble in both heats, and Michael won by a big margin in two straight heats. Time, first heat, 7:42 3-5; second heat, 7:55. The two-mile handicap was won by Fenn, scratch; time, 4:13 2-5. The five mile professional was won by Fisher. Kramer might have won had he not been forced toward the upper edge of the track on the home stretch. Time, 11:03. Albert Champion did a marvellous performance and established a new world's record for the mile on a motor bicycle. Time, 1:15, previous record, 1:22 1-5, made by Butler in Buffalo.

Kramer won the twenty-five mile lap race in Madison Square Garden September 28, beating out a big field in which were Taylor and McFarland. Time, 57:52 4-5. The race wound up the indoor cycle season in the Garden. Many of the amateurs who have been riding in the last three years jumped over the fence and joined the professional

ranks, the most prominent of these being Schrieber and Van Cott.

The match race between Hurley and Schrieber was won by Hurley. Schrieber won the one-fourth mile in 31 3-5 seconds. Second and third heats, one-half and one mile, was won by Hurley in 1:07 4-5 and 2:45 4-5.

Walthour won the final heat of the series of five-mile races continued from September 24 at Charles River Park track, Boston, September 26, defeating Elkes by about 250 yards. Time, 7:49 2-5. There was a long delay in the riders coming together, owing to the small gate receipts, they at first refusing to appear. It was only the prospect of suspension that prevented them from breaking their contracts. The final heat, which was ridden to decide the match, was won by Elkes on a fluke, Walthour's chain breaking in the last lap of the fifth mile. Elkes, losing his pace, sprinted the last lap alone and finished in 7:56. This race closes the season at this track.

Michael again defeated McFarland in Madison Square Garden September 25. The race was in heats of five miles each paced by motor bicycles. Michael lead in the first heat, was one lap, and in the second heat twenty-five yards. McFarland was unable to hold his pace closely in either heat and frequently rode a lap at a time practically unpaced. Time of first heat, 8:51 4-5; second, 8:50.

A special invitation race for amateurs was won by Hurley; Schreiber second. Time, 2:21 4-5.

At the Providence track September 25 Walthour defeated Elkes in the twenty-five mile motor paced race by half a lap. Time, 37:30 3-5. The men strated from opposite sides of the track, and Walthour, catching Elkes at the end of the sixth mile, simply trailed him to the finish.

At the Revere track, Boston, September 28, Elkes won the \$2,000 match series against Walthour. Elkes rode 37¼ miles in the hour, behind motor bicycles, nearly a mile more than Walthour.

Michael and McFarland sailed on the Kron Prinz Wilhelm yesterday for a two months' invasion of Europe.

INDIANA CHAINS

EASIEST RUNNING. CONSEQUENTLY BEST.

EVERY LINK IS RIGHT.
PRICE IS RIGHT.

Send 26 cents for Feb. \$1.80 per dozen.

INDIANA CHAIN CO., Indianapolis, Ind.

BRANDENBURG BROS. & WALLACE, Salesmen.
New York—Chicago.

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It is published for the information of the average mortal; no dictionary of mechanical terms is needed to understand it.

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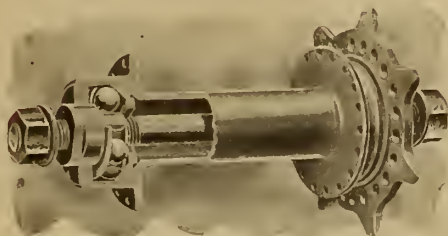
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ALSO REGULAR ROAD HUBS.

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VULCAN HUBS.

Cheap but Good and Well Worth Their Price.

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wheels must have the
best equipments.

There is nothing that gives more value for
the money than the use of the

MORSE TWIN ROLLER CHAIN



NOISELESS IN MUD, WATER OR
DUST AND ALWAYS EASY RUNNING.

The only chain having Frictionless
Rocker Joints. Insist on having the
Morse Twin Roller. Fits regular
sprockets.

Send for Catalogue and
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Morse Chain Co., Trumansburg, N. Y.

The Retail Record.

Wilmington, Del.—Albert McDaniel, closed.
Daytona, Fla.—W. W. Austin, opened new
store.

Tuckahoe, N. Y.—Herman Mester, opened
new store.

East Douglas, Mass.—W. B. Fairfield has
closed his store, but will continue repairing
business at his home.

Milwaukee, Wis.—Fred Weil, 405 Grand
avenue, has filed a petition in bankruptcy.
He places his liabilities at \$1,124.62 and as-
sets at \$1,014.67. Exemption to the amount
of \$400 is claimed.

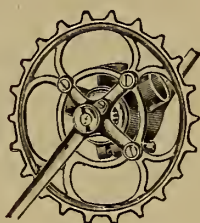
Not Fair-Weather Riders.

It takes more than rain to keep the cyclists
of Oneida, N. Y., off the streets. Numbers
of them were seen riding there recently at
the tail end of a heavy shower, protecting
themselves from the still falling rain by
holding umbrellas over their heads. The
sight did not appear to be an unusual one,
for none of the natives gave these wheelmen
as much as a second glance.

Crawford Chooses Officers.

The Crawford Mfg. Co., Hagerstown, Md.,
the stock of which is held by the American
Bicycle Co., have elected Edward M. Mealey
president, Harry S. Wise secretary, L. B.
Whymper, E. E. Hinsman, Robert S. Craw-
ford and George Pope directors.

"How to Drive a Motorcycle." See "Moto-
cycles and How to Manage Them." \$1. The
Goodman Co., Box 649, New York. ***



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Single,
Tandem,
Triplet,
Quad and
Motor Cycles.

Lightest, Nearest Dust Proof, and
Easiest Running Hanger in the World.
Park City Mfg. Co., inc., Chicago

NEVERLEAK

STOPS LARGE PUNCTURES.

This is the only fluid that can be legally used in pneumatic
tires. Suits now pending.

BUFFALO SPECIALTY MFG. CO.,
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HAND AND FOOT PUMPS,

Oilers, Repair Tools,
Valves, Name-plates, etc.

Spelter Solder

Sheet Brass,
Brass Wire and Rods.

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Depots: 210 Lake St., Chicago.
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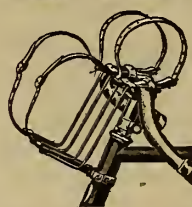
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For High Grade Bicycles. The best and neatest Oiler in the
market. DOES NOT LEAK. The "PERFECT" is the
only Oiler that regulates the supply of oil to a drop. It is ab-
solutely unequaled. Price, 25 cents each.
We make cheaper oilers, also.

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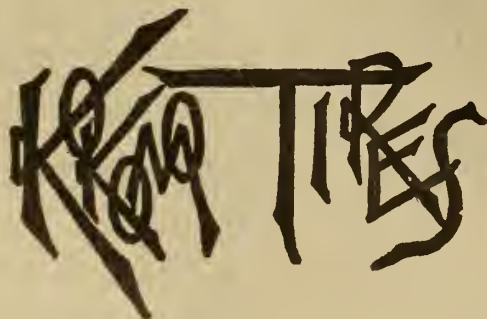
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If You Desire Complete Motor Bicycles

You cannot get a better one than

THE MARSH.

If You Desire to Build Your Own Motor Bicycle

We can supply everything which you require
for the purpose. Write us.

The Motor Cycle Mfg. Co., Brockton, Mass.

Catalog Time

It's Almost Here

And the catalog compilers are, of course, "looking around" for the good things worth illustrating and describing.

In the past, few catalogs have gone to press without mention of Bevin bells and sundries—

and the year 1901 has demonstrated

that NONE can afford to do so in the future. The year has proven

Bevin Bells

to be the

Best Sellers in the Trade.

Always well known, they are better known. Always well liked, they are better liked. Always good sellers, they are better sellers and they satisfy all kinds and conditions of cyclists.

If you have an eye to business they'll be "well up in front" in your 1902 catalog—and our lamp brackets, toe clips and trouser guards won't be far behind them. They're sellers too. It will be a mistake to overlook them.

BEVIN BROS. MFG. CO.
East Hampton, Mass.

Business Established in 1832.

Managers of Men.

There is one class of workers for whom a large and constant demand exists and who, therefore, need never starve for lack of employment. These are the men who have the managing faculty. Like the poet, the successful managers of men, as a general rule, are "born, not made." Their ability is rather intuitive than acquired. They have the faculty, knack, aptitude, call it what one will, of administration and leadership, which commands the respect of those they control. They are necessarily men of strong will, but are not arbitrary or oppressive in the exercise of it.

Tact and good judgment are essential to the makeup of such men, says the Metal Worker. They must have a good understanding of men and be able to discriminate between those who must be driven and those who can be led, adapting their methods of dealing with each accordingly. To do this properly requires a close study of the dispositions of men, which the good manager will not fail to make. He must, moreover, so rule himself that he may pursue his course with even temper, never allowing his passions to get the better of his good judgment and strict sense of justice. Ruling by force of character and showing himself fair minded, sympathetic and devoted to his duty, he will command the respect and obedience of those under him.

The domineering, passionate, arrogant slave driver may command men through fear, but he has no hold on them, and the moment they have the opportunity to do so they will rebel. He is not a good manager of men, although for a time they may obey him with alacrity.

The really successful manager has his men so trained that they will do their duty as well in his absence as when he is present. A marked quality of such a manager is one that he shares with all the great men of history, the faculty of picking out good assistants and inspiring them to use their best efforts. This is not the least among the qualifications essential to good managership. A loyal, enthusiastic corps of lieutenants and a contented, cheerful rank and file of willing workers are secured by the methods above outlined, as used by the good manager, to the profit of all concerned.

Williams is Wanted.

Considerable curiosity is felt in Selma, Ala., as to the whereabouts of E. O. Williams, a former dealer at that place. He disappeared on August 24 and has not been heard of since. It is alleged that several bicycles which had been sent to his shop to be repaired disappeared about the same time. Williams is said to have left a number of unpaid bills behind also.

Lott Likes Evansville.

According to an Evansville (Ind.) paper, the Anderson Cycle and Motor Co. may locate in that town. J. B. Lott, the president of the concern, was in Evansville last week, and expressed himself as being favorably impressed with the town as a factory site.

SOMETHING ABOUT CYCLE SADDLES.

Despite the thousands of saddles sold each year, how many buyers buy intelligently—that is, with full information regarding leather and the items of cost?

Everyone knows that "all is not gold that glitters," but how many know that all is not leather that looks it? How many know the different grades of leather, the different weights of it, the different methods of treating it?

Do you?

Do you know the cost of the different grades—the cost of the different weights?

If you do, then you are in a position to appreciate

OAK QUALITY.

If you do not, then inquire of the leather market and you will quickly learn some of the reasons.

WHY THE 1902 OAK SADDLE



**IS THE BEST VALUE
EVER OFFERED the CYCLE TRADE.**

The leather used is the choicest selection possible to obtain. The Oak top is three times the weight and thickness of the top used on other saddles, and leather, please remember, is sold by weight, and weight and thickness mean durability. It is one of the reasons why Oak tops hold their tension and do not stretch or sag.

Every other part of the New Oak saddle is made with the same care and regard for quality, and we make each and every part of it ourselves. *The Oak is not merely an assembled saddle.*

WHY NOT LET US QUOTE YOU PRICES?

NEWARK CYCLE SPECIALTY CO.,
NEWARK, N. J.

The Week's Patents.

683,037. Driving Mechanism for Cycles. Venceslas Gourny-Wysocki, Brussels, Belgium. Filed Dec. 8, 1899. Serial No. 739,659. (No model.)

Claim.—1. In combination in a vehicle having three or more wheels, driving pedals, a pin wheel, a pair of axles for the driving wheels having their axes coincident and arranged independent of each other and the two pinions arranged upon the said axles to receive movement from the pin wheel, substantially as described.

683,066. Electric Tube Welding Machine. Otto Parpart, Cleveland, Ohio, assignor to the Standard Welding Co., same place. Filed Sept. 1, 1900. Serial No. 28,750. (No model.)

Claim.—1. In a tube welding machine, the combination of two electric current conducting devices respectively connected with opposite electric poles and adapted to have contact respectively with the opposite edge portions of the joint of a tube, and a die located in a different plane from said conducting devices transverse to the line of movement of the tube, substantially as set forth.

683,110. Mixing and Vaporizing Device for Explosive Engines. Fred W. Felbaum, Dayton, Ind. Filed May 21, 1900. Serial No. 17,384. (No model.)

Claim.—1. A mixing and vaporizing device for explosive engines comprising an oil vaporizing chamber having communication with the outer air at its lower end and with the combustion cylinder at its upper end, a hollow chamber having a perforated wall providing an interior chamber and oil distributing inner surface, a valve disk controlling communication between the vaporizing chamber and the combustion cylinder, an oil feed having a feed outlet and located in the vaporizing chamber, a valve disk controlling the feed outlet and means for operating said valve disk of the oil feed by the air pressure caused by the suction of the combustion cylinder.

683,125. Vaporizing Device for Explosive Engines. Leon Laurent and Eugene Clerget, Dijon, France. Filed March 16, 1900. Serial No. 8,977. (No model.)

Claim.—1. In an explosion motor, the combination with a tube made of a metallic or refractory substance, of a metallic vessel, a body of fragments of metallic or refractory substance placed within said vessel, the outlet of said tube being located within said body, and means for supplying hydrocarbon, water and air to said tube.

683,152. Explosive Gas Engine. Victor St. John, Fairmont, Minn. Filed May 8, 1899. Serial No. 716,073. (No model.)

Claim.—1. A gas engine of the class described, comprising the cylinder, the piston working in said cylinder, its actuating crank, the passage in said piston, the pipe connecting said passage with the source of gas supply, and the valve arranged in said piston between said passage and the interior of the cylinder, whereby upon the working stroke of said piston the rushing of the air through said passage and valve will carry the gas into the cylinder.

683,271. Free Wheel Velocipede. Antony Gibbs, Bristol, England. Filed Feb. 4, 1901. Serial No. 46,002. (No model.)

Claim.—1. The combination of an axle, a wheel thereon, a pedalling mechanism, a double acting clutch for connecting said pedalling mechanism with said wheel, a spring for holding said clutch open, and means for overcoming the tension of said spring to lock the clutch in back-pedalling.

683,381. Bicycle. Altia Chamberlin, Fairbury, Neb. Filed March 11, 1901. Serial No. 50,644. (No model.)

Claim.—1. In a bicycle, a frame comprising a bottom run extending in a direct line with the wheel axles, a main reach bar and rear braces respectively connected with opposite ends of the bottom run and united at their upper extremities to form a triangular main frame, and an upper triangular extension frame, the base of which is formed by a portion of the reach bar.

683,410. Collapsible Tube for Containing Semi-Liquid Substances. Oscar Mussinan, New York, N. Y., assignor to Dennison Mfg. Co., Boston, Mass. Filed July 17, 1901. Serial No. 68,680. (No model.)

Claim.—1. A collapsible metal tube provided with a flattened rigid nozzle having a discharge aperture and adapted to serve as a brush for spreading the contents of the tube, in combination with a pin provided with a head and serving as a seal or stopper.

683,413. Street Sweeper. Andrew J. Reynolds, Boston, Mass. Filed Nov. 17, 1899. Serial No. 737,336. (No model.)

Claim.—1. In a tricycle sweeper, a framework, the driving chain for the tricycle, the intermediate gear wheel driven by the chain, a brush carried by a rotating shaft mounted in the framework, and an elastic belt between said brush shaft and the shaft of the driven gear wheel, said brush shaft being supported in pivoted arms.

Maybe This Would do.

Many attempts have been made to bring out a non-slipping belt for motor bicycles. It is scarcely necessary to say that they have so far been attended with a very small degree of success. This in spite of the fact that they have been made of all kinds of material and in many different shapes.

The suggestion is made that a nearly square belt running on a V-shaped pulley would be effective. The belt would wedge itself in the V-shaped groove and take a much stronger hold than could possibly be the case with a belt and groove of the same shape. It is not at all improbable that there is something in the idea. At least it is worth trying.

Have High Hopes.

The new vulcanized tire of the Dunlop Tire Co. is expected to put an end to the "boil" troubles that have affected British riders so grievously. These were caused by air getting between the fabric and rubber tread of the outer cover and raising a "boil" on the latter. It is also thought that the extensive infringement of Dunlop tires will be stopped by the use of the vulcanized cover. "It will be absolutely impossible to copy the new tire, and the bogus article will disappear from the market," says one trans-Atlantic journal.

Still Adhere to English Ideas.

Two hundred Victor bicycles were shipped to Wellington, New Zealand, last week, by the J. Stevens Arms and Tool Co., Chicopee, Mass. It is interesting to note that these machines, going to an English colony, were equipped with steel rims, mud guards and hand-applied brakes.

The Week's Exports.

England was far and away the largest purchaser of American cycle stuff last week, the value of the shipments closely approaching \$9,000. France and Holland were the only other countries to buy in any considerable quantities. The record in detail for the week, which closed September 24, follows:

Antwerp—3 cases bicycle material, \$40.
British East Indies—4 cases bicycles and material, \$245.
British possessions in Africa—4 cases bicycles and material, \$79.
Cuba—3 cases bicycles and material, \$67.
Copenhagen—13 cases bicycles, \$470; 9 cases bicycle material, \$261.
Christiania—1 case bicycle material, \$13.
Dutch East Indies—26 cases bicycles and material, \$337.
Genoa—4 cases bicycle material, \$45.
Havre—30 cases bicycle material, \$2,064.
Hamburg—14 cases bicycle material, \$440.
London—31 cases bicycles, \$560; 65 cases bicycle material, \$6,855.
Lisbon—15 cases bicycles, \$380.
Liverpool—58 cases bicycles, \$1,002.
Liege—11 cases bicycles and material, \$570.
Mexico—1 case bicycle material, \$10.
Milan—1 case bicycle material, \$50.
Philippines—1 case bicycle material, \$25.
Rotterdam—27 cases bicycles, \$980; 14 cases bicycle material, \$450.
Southampton—9 cases bicycle material, \$190.
Smyrna—1 case bicycle material, \$41.
Stavanger—5 cases bicycles, \$102.
Stockholm—1 case bicycle material, \$12.
St. Petersburg—1 case bicycle material, \$30.
Uruguay—11 cases bicycle material, \$245.
Warborg—4 cases bicycle parts, \$126.

Going West?

If you purchase your tickets via the Nickel Plate Road, the shortest route between Buffalo and Chicago, you will secure the best service at the lowest rates. Three fast thru express trains daily, in each direction, between Buffalo, Erie, Cleveland, Ft. Wayne and Chicago, making close connections at the latter city with the fast trains of the Western roads. The trains on the Nickel Plate Road consist of elegant vestibuled day coaches, sleeping cars of the latest models, and Nickel Plate dining cars serving famous individual club meals at rates from 35 cents to \$1. Thru sleeping cars are also run from Boston, New York, Albany, Syracuse, Rochester, Scranton, Binghamton and Elmira, and many other Eastern cities.

If your ticket agent cannot give you the information desired, address F. J. Moore, General Agent, Nickel Plate Road, 291 Main St., Buffalo, N. Y. ...

Figures have been compiled by the Boston and Maine Railroad which show a falling off of 60 per cent in the number of bicycle carried by it during the months of July and August, as compared with the same period during 1900.

The Bicycling World

AND MOTOCYCLE REVIEW.

In which is incorporated "The Wheel and Cycling Trade Review" and the "American Cyclist."

Volume XLIV.

New York, U. S. A., Thursday, October 10, 1901.

No. 2

EXECUTIVE COMMITTEE CUT OUT

A. B. C. Will Get Along Without One—Two Vice-Presidencies Left Vacant—Four New Directors, Otherwise no Changes—Financial Report Interesting if not Enlightening.

Despite the perennial report and prophecy of sweeping changes in the official circles of the American Bicycle Co., the annual meeting and election occurred on Tuesday of this week, and nothing of the sort came to pass. While there are fewer of them, old hands remain at the helm and, if anything, with even a firmer grip and direction than heretofore.

The officers chosen are as follows:

President—R. L. Coleman.

Vice-President—J. E. Bromley.

Secretary and Treasurer—C. W. Dickerson.

The new directors chosen were: J. W. Spalding, who succeeds his brother, A. G.; M. B. Johnson, Cleveland, O., who succeeds to the vacancy left by the death of R. Philip Gormully; J. E. Bromley, who succeeds R. S. Crawford, and Otto Unzicker (formerly President Coleman's partner in the Western Wheel Works), who succeeds E. C. Stearns. In addition to these new men the directorate is made up as follows: R. L. Coleman, Albert A. Pope, George Pope, H. A. Lozier, William Barbour, George W. Young, C. L. Ames, J. W. Kiser, Gardiner M. Lane and George F. Crane.

Ante-election rumors had it that two vice-presidencies would be vacated, and, in this respect at least, rumor proved correct. Col. George Pope and Theo. F. Merseles, first and third vice-presidents respectively, were not re-elected. Both will, however, continue to be identified with the company. Mr. Merseles has been appointed assistant to the president, and while Col. Pope will have no

title, he will have his duties and incidentally devote more time to the development of the Auto-Street Sweeper Co., of which he is president, and in which the A. B. C. has large holdings.

More surprising, however, is the fact that the executive committee itself was discontinued. It no longer exists, thereby leaving to President Coleman practically the entire direction of affairs. The offices of secretary and treasurer also were formally consolidated, giving Secretary Dickerson the position of treasurer, which he has filled for nearly a year past in addition to his other duties.

Like all financial statements designed for public print, the A. B. C.'s presentment conveys small information. A newspaper man remarked this fact to an official.

"Oh! turn it over to your expert accountant," advised the latter with a dry smile.

On its face the report shows a net profit of \$350,682.59 after paying interest on bonds. How much of this was earned by the dependent or auxiliary companies operating under other names is a matter for speculation, but reliable information places the amount at more than 50 per cent of the net profits. That the company itself earned more than sufficient to pay its interest charges has given rise to gossip that proves nothing, however.

Incidentally the gross profits for the year figure but \$4,897 less than for the ten months of 1900—another item, weather considered,

(Continued on page 30.)

RUBBER GOODS AFTER GOODRICH

Big Company Negotiating for the Rich Akron Plant and its Immediate Purchase is Probable—Other Matters Likely to Affect Tire and Rubber Prices.

Information regarding one of the developments in the tire trade at which the Bicycling World hinted three weeks since has finally reached the outside public; in consequence it is no longer a secret that before the close of the current week it is likely that the great plant of the B. F. Goodrich Co., at Akron, Ohio, will be added to the possessions of the Rubber Goods Mfg. Co.

The Rubber Goods Co. has had an option on the property for some time, but negotiations for the actual sale of it has been taken up only within the past month. They are now nearing a head and final consummation of the deal is expected at any moment.

Reports of a consolidation of the crude rubber companies are also circulating; likewise a report that the tire makers are finally nearing an agreement as to the price of cheap tires.

Hutchinson Gets 'Frisco Berth.

The organization of the American Bicycle Co.'s three new sales departments has been completed by the selection of O. C. Hutchinson as manager of the Pacific department at San Francisco. Hitherto Mr. Hutchinson has been in charge of the Monarch department in Chicago. As stated last week, the Eastern department in New York will be managed by Chas. E. Walker and the Western in Chicago by J. C. Matlack. The jobbing and foreign bureaus, now attached to headquarters, will be placed under Mr. Walker's direction.

GAINS IN EUROPE

But Despite Them August's Export Record Proves Unusually Poor.

In the matter of exports August failed to hold the pace of the two previous months. While June and July developed increases, August turns out to have been about the poorest month since the export business attained respectable proportions. Its record was some \$14,000 less than August of last year—itsself a month of no magnitude.

While the elimination of Hawaii and Porto Rico from the statistics is a factor, the loss, strange to relate, was sustained not in England or Europe, as has been the case heretofore, but mainly in Japan, Australia and the Philippines. England and Europe generally, not even excepting Germany, actually showed a substantial increase in their purchases, England's increase bringing its total for the eight months ending with August above the record for the corresponding period of 1900. Of the other gains only that in Mexico is worthy of remark. China, in which a sensational advance was made last month, failed to bear out the promise of an immediate awakening and developed trade.

The record in detail follows:

Exported to—	August		Eight months ending August		
	1900. Values.	1901. Values.	1899. Values.	1900. Values.	1901. Values.
United Kingdom.....	\$26,323	\$29,173	\$605,164	\$374,546	\$383,369
France	7,273	8,393	393,988	172,880	170,684
Germany	6,155	9,490	718,451	309,870	170,356
Other Europe.....	15,291	20,903	800,614	575,300	420,104
British North America.....	10,703	9,347	502,134	336,613	269,393
Central American States and British Honduras	258	121	3,819	1,044	3,734
Mexico	849	2,537	32,707	10,761	16,636
Santo Domingo.....	24	248	298	152	756
Cuba	1,813	1,767	49,842	63,377	8,243
Porto Rico*.....			2,234	1,461	
Other West Indies and Bermuda.....	4,934	4,777	46,238	32,751	34,891
Argentina	1,544	260	200,762	61,538	4,762
Brazil	839	83	23,397	14,351	4,428
Colombia	103	75	6,108	3,400	575
Other South America.....	3,204	2,425	41,893	30,705	20,105
Chinese Empire.....	1,672	840	16,225	17,966	42,831
British East Indies.....	5,154	1,413	79,619	42,547	38,720
Hong-Kong	1,260	460	6,390	5,785	2,812
Japan	21,913	13,345	67,491	182,181	173,932
British Australasia.....	21,670	10,662	157,024	154,182	126,292
Hawaii*			35,842	32,473	
Philippine Islands.....	10,715	1,338	958	39,645	26,230
Other Asia and Oceania.....	2,136	1,013	29,001	20,532	14,743
Africa	5,501	6,260	130,812	33,300	53,040
Other countries.....	40	98	274	357	282
Totals	\$149,374	\$125,028	\$3,951,285	\$2,517,717	\$1,986,919

*No longer included in statistics.

British-Made Hygienics.

It is stated by the Cyclist that hereafter the Hygienic cushion frames used in Great Britain will be made in that country. Arrangements to that end have been effected by the South British Trading Company, the British representatives of the Hygienic Wheel Co. The parts will be made by a well known manufacturing concern, name not mentioned.

Cycling Conditions Abroad.

"They seem to use their bicycles more on 'the other side' than we do here," remarked a prominent tradesman who had just returned from a quiet tour of England and the Continent, and who did not care to have the fact known. "You see them everywhere and in goodly numbers. Since the days of our boom I don't think I have seen so many riders as I saw in St. Petersburg. The place seemed alive with them. In France, in Belgium, and even in Germany, where the cry of distress has been heard loudest, there were few visible signs of depression, while in England—well, in England bicycles never seem to grow less."

Menke Gets Veeders.

Ellis Menke, Frankfort on Main, Germany, has recently contracted with the Veeder Mfg. Co. to handle their cyclometers, odometers and specialties in Europe, with the exception of England. In conjunction with Markt & Co., Ltd., of London, Menke will control the entire European trade.

Takes Root in Evansville.

Press dispatches from Evansville, Ind., state that the Root Motor Cycle, Co.—whoever they may be—have made a proposition to locate its plant there; the proposition, it is added, has been accepted.

DOWN GO DUNLOPS

Big Company Again Reduces Prices and Embarrasses its Competitors.

It is evident that the Dunlop Tire Co. has not given up the hope of retaining its commanding position in the British trade even after the expiration of its patents three years hence.

Nor can it be denied that the campaign they have already inaugurated has been very ably planned and promises remarkable results. They first made great improvements in their tires, placed two types of detachable pneumatics—the wired and the beaded edge—on terms of equality in the market, and thus removed nearly all ground for criticism on this score. Then the matters of guarantee and price were taken up, and the latter at least has been settled in a manner that cannot fail to materially help their cause.

The promise of a material reduction from the preposterous prices heretofore charged by the concern has been fulfilled. The new trade prices took effect on October 1, and their publication was almost coincident with this date.

Under the new list the trade prices range from \$11 50 to \$12 gross, the latter price being for less than 5 pairs, and the former in 1,000 pair lots. These prices are for the complete tires, with rims. From these figures there are reductions in the shape of discounts and rebates. Taking these into account, and figuring the lowest net price obtainable by the largest buyers, it comes out at \$10.16. The prices on the separate parts have been reduced proportionately.

This is a reduction from the present season's prices of a few cents under \$2, or 15 per cent. This is a considerable decrease, although not a sweeping one.

Even as it is, however, it bodes ill for the competitors of the big monopoly. The logic of events is almost certain to force them to reduce their prices correspondingly. Hitherto they have obtained trade almost entirely on the strength of cheapness, and to relinquish the advantage would be almost equivalent to throwing up their hands.

To observers in this country a reduction would appear to be easy. As has been so often pointed out, British tire prices are, by comparison with American ones, excessively high. It seems scarcely possible that the cost of manufacture is so much greater than that in this country that the increase is a necessity, nor can one see why the selling cost should be so different as to cause the increase.

Yet the opinion is freely advanced that a proportionate reduction by the Dunlop Company's competitors is an impossibility. It is intimated that this fact presages the success of the Dunlop Company, and the acquirement by it of practically all the tire business next year. It is pointed out that the outside concerns are now between the devil and the deep sea. They cannot make the required cut, and they cannot retain their trade unless they do.

Sundry Department Continued.

It turns out that the Columbia sundry department which it was supposed would be abolished will not only be continued, but will be removed from Hartford to New York. Here it will be attached to the amalgamated sales department under Charles E Walker. The sundry department itself will, however, remain the immediate charge of the present manager, C. F. Cox.

EFFECTS OF ORGANIZATION

How 'Frisco's Board of Trade Dominates Business—Regulations in Force.

If the other members of the San Francisco Cycle Board of Trade are like Joseph Holle—and necessarily most of them must be—it is easy to understand why that organization is one of the very few that not only still exist in the cycle trade, but that is a really live and dominating factor in retail affairs.

Holle, who spent two weeks in this part of the country, left for home last week. Before he left he fell to talking of the 'Frisco Board of Trade, and had he been urging the *Bicycling World* man to become a member he could not have talked more earnestly or convincingly. He delivered what might well be termed an "essay on organization." There was no such thing as discouraging him by pointing out the many failures of similar organizations in the East and elsewhere, or by remarking the lack of cohesion and the fierceness of competition. He had a good answer for every argument.

"We went all through that," he said. "We had wide open competition and the usual number of dealers and repairmen who would not join with us, and who advanced all the usual objections. But we stuck to it, and they are all with us now, I can tell you.

"There isn't a man in the bicycle business in San Francisco who is not a member of the Board of Trade. The dealers, the jobbers, the repairmen, the enamellers and the platers, big and little—we've got them all. Yes, we have even the department store with us. They all did not come in at once, and in fact the last one who held aloof and fought us for years only filed his application last month. We had ceased to solicit his membership, and he came in of his own accord, and just to teach him a lesson we laid his application over for a couple of months. No man outside our ranks can well do business in 'Frisco, and the fact is recognized.

"We all used to fight each other, cut prices, call names and do all that sort of thing, but organization has overcome it all, and now when we get together each member feels kindly toward the other and works for the common good. If you called our Board of Trade the 'Anti-Knocking Association' it might be slangily described, but it would describe it truthfully at that.

"Why, we even went over to Oakland and organized a Board of Trade there. Oakland is just across the bay from San Francisco. It is as Brooklyn is to New York. The trade there was all cut up, and, being so near, we of San Francisco felt the effect. When we called the first meeting in Oakland but five Oaklandites attended. We were assured that we could not succeed. But we held a second and a third meeting, and each time we gath-

ered in more of them. Now there are but four or five outside the fold, and things in Oakland are going swimmingly.

"What we have done any one can do. I can't understand why more of it is not done, if for no other reason than that it pays to do it. Our Board has existed since 1896; it is stronger to-day than it ever was, and I doubt if we have a single member who would elect to go back to the go-as-you-please plan."

"But what of price cutters and job lots?" was asked.

"They don't bother us at all," Holle replied. "The nearest approach to price cutters we have are department stores, and, as I told you, the manager of the only one selling bicycles is a member of our Board of Trade—which means that he does not cut prices."

"Job lots?"

"They've tried to auction them off on us several times, but scored a failure every time they tried it. San Francisco people are chary of unknown or doubtful bicycles; they are wise buyers."

Holle had with him copies of the San Francisco organization's constitution and by-laws and of the more important resolutions that had been passed. These threw light on the sources of the Board's strength. The main source appears to be an agreement entered into with the jobbing houses, in which the latter bind themselves as follows:

"We agree not to sell any bicycle repair or construction material at trade discounts to any one in San Francisco except members of your association, with the exception of those wholesale houses who, from their dealings with us in other lines of goods, and who in many cases purchase the above mentioned goods for their country customers, and in consequence have a just claim on us for our trade prices."

Mr. Holle states that the agreement has worked satisfactorily to all concerned. The jobbing house that violated the agreement would at once lose the trade of the members of the Board. They have appreciated the fact so well and lived up to the agreement so steadfastly that dealers and repairmen who flouted the organization and who advanced the argument that "no one would refuse to sell them while they had the price" were quickly undeceived and brought to their knees.

Much power is vested in the directors, thus:

"The directory of the Board will constitute and maintain a strict surveillance of its members and will see that repair prices are regularly maintained as per schedule. Any member detected and convicted of cutting prices will be suspended from membership. His card will be withdrawn, and he can be reinstated only by vote of the Board."

Additional causes for action and the penalties involved are outlined as follows:

"Any member of this Cycle Board of Trade who shall purchase for or furnish in any manner at trade rates cycle material or

sundries to a repairer or dealer who is not in the Cycle Board of Trade, or who has been debarred from the privileges of this association, or the Oakland Cycle Board of Trade, or any other Cycle Board of Trade which shall be in harmonious relations with this organization, shall, upon due evidence presented to the Board of Directors of this association, be deprived of his membership card."

"Members shall be fined \$10 for the first offence of cutting prices. Failure to pay fine will mean expulsion, and, for the second offence, expulsion."

The San Franciscans are not hidebound, however. They appreciate that "exceptions merely prove the rule"—that causes and considerations occasionally arise that require the relaxing of a rule, and they provide for it, but with the following admirable safeguard:

"In view of possible irregularities or overstepping of the privilege of members to furnish repair work or cycle material, out of considerations of friendship or other obligations, at rates below those fixed by the Cycle Board of Trade, each such case shall be reported in writing to the secretary by the firm making the exception within one week of the transaction, specifying the article of repair, price, and to whom made. The secretary shall file the same in a record open to all members of the organization. The Board of Directors shall be judges whether the privilege is being abused by any member, and shall have the power to limit the same. Any failure to report shall subject member to loss of card."

Would Prove Real Stimulants.

"Motor bicycles aside," says Alex Schwalbach, Brooklyn's veteran dealer, "if the business is to be given an immediate stimulant that will be generally felt, and be made plainly visible, I am convinced that it can be given in just one way—by a general reduction to \$50 in the price of chainless bicycles. That price will start a general movement toward the chainless, and, I believe, swing over the majority of riders—nothing else will. The present prices simply serve as a handicap and drag to the machine."

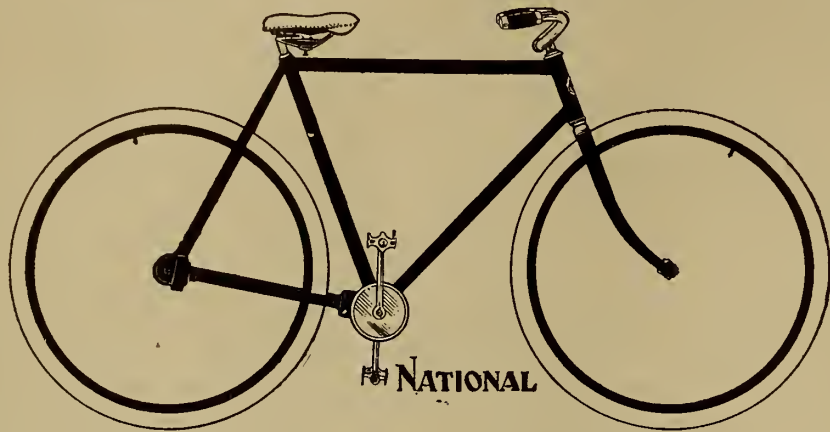
Goes From Philadelphia to London.

W. A. Richwine, for several years in charge of the Eclipse Mfg. Co.'s Philadelphia branch, is leaving for London to become identified with Green & Houk, who control the Morrow coaster-brake in the United Kingdom. Richwine is one of the trade veterans, and his extensive knowledge and experience should stand him to good purpose in his new field.

Campbell Joins Barwest Staff.

S. A. Campbell, long identified with the Eclipse Mfg. Co., has been added to the travelling corps of the Barwest Coaster-Brake Co. He will cover his old territory—New York to Omaha.

New York City to Buffalo in 42 Hrs. 55 Mins. ON A NATIONAL CHAINLESS BICYCLE.



This is the bicycle upon which E. A. Payne, of Amsterdam, N. Y., established a new record from New York City to Buffalo.

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IT'S IN A CLASS BY ITSELF.

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CHICOPEE FALLS, MASS.

THE BICYCLING WORLD

FOUNDED 1877
and MOTORCYCLE REVIEW

In which is Incorporated
the "The Wheel" and the "American Cyclist."

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Address us at P. O. Box 649.

NEW YORK, OCTOBER 10, 1901.

Organizing on the Right Plan.

The story of San Francisco's Cycle Board of Trade is not only a wholesome but an inspiring one. It had preceded the telling of it by Mr. Holle, which is narrated in another column, and had always evoked admiration.

Mr. Holle, however, supplies the working plan, so to speak, and, as he says, there is no reason why, having proved effective in San Francisco, it will not prove as effective elsewhere.

The jobbers' agreement is, of course, the corner stone to success, but as it is an agreement that helps jobber as well as dealer and repairman, there are few of the middlemen who would refuse to become a party to such an arrangement.

The advantages of organization are beyond dispute. In past years, the dealers in many cities have recognized the fact and groped for them with assorted success or no success at all. The various associations and boards of trade have fallen apart mainly because they rested on no substantial foundation.

The "jobbers' agreement" did not occur to them.

Now that it is pointed out it must occur to all that it is a rock of great strength. It invites a rebuilding of structures. It points the way to a better condition of things and to lasting betterment. Wherever a dozen dealers survive it should give hope—it should invoke a getting together and the formation of an organization such as kept San Francisco and a few other places out of the sloughs of despond.

Making for Mischief.

The organization of the New England retail pool—the Equitable Distributing Co.—is already giving rise to wrong impressions that are calculated to implant mischievous ideas in the public mind.

Some of the New England papers have published the concern's prospectus, figures and all, and heralded it as a "co-operative bicycle company" which purposes doing all manner of things, among others, "to sell high class bicycles at \$20 and less." Even the New York Sun has reprinted the twaddle and the co-operative idea being a fascinating one, the story has started on a journey that will hardly end short of the Pacific.

The damage that may be left in the train of a constantly repeated and uncontradicted tale of the sort is easily imaginable. The mail order houses, fake storage companies and other commercial guerillas and cheap-and-nasties have already planted that noisome seed in many minds and a tale of the kind simply appears to confirm their wildly exaggerated claims of "high class bicycles" at \$19.99 and other fanciful prices.

If the Sun and the other papers desire to serve an industry that has already suffered much from misrepresentation and incidentally to undeceive the public they might state the real facts in the case: that the "co-operative bicycle company" in question was formed primarily because the dealers composing it have found profits not too great but all too slender; that to better conditions they aim by organization to lump their purchases and thus obtain the benefit of "quantity quotations" which apply not on the really high class bicycles, but on sundries and on the nondescript bicycles known as "job lots" which are hawked under many names at many prices in as many towns. As a portion of the public, lured on by the music of the guerillas and "wild cats" will purchase doubtful bicycles of the sort, the dealers gathered into the "co-operative bicycle company" mean to meet the competition

and give that portion of the public such odds and ends as it wants at the fanciful prices which appear to possess such fascination—\$19.99 and less.

The genuinely high class bicycles, those with a reputation and sold and guaranteed by their own manufacturers under their own names are further from "\$20 and less" than they ever were. No manufacturer could make them and no dealer sell them within artillery distance of such figures and remain in business six months.

If the newspaper world does not know it the several hundreds of hard headed New England Yankees who comprise the "co-operative bicycle company" do know it and know it only too well.

Cycle Paths a Trade Factor.

Cycle paths and sidepaths were outgrowths of the "boom" of the late nineties. As they had their origin in that great movement cycleward, so when it reached its culmination and then declined, they, too, ceased to progress.

As far as cycle paths are concerned—meaning thereby asphalt strips on city streets and other paths in or near cities—they were generally of an enduring character. If they are not so much used now as formerly, and consequently are not the object of solicitude on the part of the authorities, neither do they require any great amount of attention. Ten years hence, even if they do not get anything in the shape of repairs, the majority of them will still be rideable. Even if somewhat the worse for wear, cyclists will be able to make use of them.

It is very different with sidepaths, as the system of cycle roadways in the country districts is generally termed. They are of a much more ephemeral character, and neglect will inevitably result in vastly more harm—harm that will fall little short of being irreparable.

At first thought the average tradesman will be inclined to ask what great difference it will make if these paths are neglected and allowed to travel the downward path to ruin. Cycling attained an unprecedented popularity without them; why should they be so necessary now that an enormous shrinkage has taken place and the very nature of riding has undergone a change that falls little short of a revolution?

A little reflection, however, will convince them that it is because of this very change that the subject is so important.

Cyclists nowadays are much more easily daunted than of yore. Were the conditions

under which riding must be pursued the same now as they were a dozen years ago, many would give it up. The zest for cycling no longer increases in direct ratio with the difficulties encountered. Riders now want their paths smoothed for them, and if this is not done they are very apt to come to the conclusion that it is too hard work.

It is a fact that it was in the districts where the roads were worst that the sidepaths flourished most. Given a bad road and an enthusiastic and enterprising class of cyclists, and a sidepath was the almost certain outcome. They filled a want then, do so now, and in the future will be even more important. Consequently their upkeep is a very important matter.

This class of sidepaths, being of less enduring material than those dubbed cycle paths in cities, cannot be neglected with impunity.

Grass grows up and obstructs if it does not hide them; heavy rains make gullies in them, long dry spells cause the surface to loosen and wear away; unless they are separated from the wagon road by a miniature ditch or other means, careless or malicious drivers encroach on them and wreak great damage; even stray cattle play the part of vandals and help on the ruin.

One has but to make a short study of the average sidepath, usually connecting towns or villages, to see that the present is a crucial time. Enthusiasm has died out to a very great extent, and the maintenance of the sidepaths is frequently felt to be a burden. The question is frequently asked, Does it pay? or, Is it worth the effort? Even if these are answered in the affirmative, it is a bad sign that they should be asked at all. It is much worse when the opposite reply is made.

On the other hand, if the present crisis is passed there is a very good prospect of the utility, even the necessity, of the sidepaths being recognized.

Whether for business or pleasure, this utility is undoubtedly great. The sight of cyclists by dozens and scores speeding along with scarcely an effort, free from the dust or mud of the wagon road, removed from contact with teams, is ample proof of this. They pass at all hours of the day, but the traffic is particularly heavy in the morning and evening hours. People going to and coming from work, to town for shopping or marketing, to the postoffice, or with a dozen other objects in view, make use of the paths.

It would be a great pity, viewed merely as injuriously affecting the trade, if, through

a feeling of apathy, these paths should be neglected and go to pieces. Yet there are some sections where there is grave danger of just this happening.

Is Germany "Doctoring" Statistics?

On previous occasions the *Bicycling World* has remarked the several hundredweight of German bicycles which annually appear in the statistics of German exports as having been shipped to the United States. The item is worthy of remark, because German bicycles in this country are as rare as white blackbirds.

The fact led us to make an effort to trace the alleged shipments to their destinations. But governmental statistics show the receipt of no such imports, and inquiry of the Treasury Department failed to throw any light on the subject.

The effort is recalled at this time by German statistics that indicate that Germany has passed the United States in the volume of cycle exports to Great Britain. While our trade with that country decreased to the extent of some \$50,000 in the year ending with June last, Germany's (according to German records) has jumped from 1,910 cwts. in the first seven months of 1900 to 2,506 cwts. in the corresponding period of the current year.

As the bicycles are not consigned for re-shipment, the Britons have begun asking themselves where they all go. So good an authority as the *Cycle Trader* states that a German bicycle is never seen on an English road or in an English store, and as this exactly parallels our experience the mystery of the German exports deepens.

It seems almost inconceivable that the imperial authorities should juggle with such figures, but the situation unmistakably makes for the plain question—Are the Germans faking?

If not, where the deuce do those German bicycles go? Is it possible that they are of the Phantom brand and that the spooks ride them?

He Gets the Second Chance.

That "chickens come home to roost" we are told by the old saw.

If wideawake dealers are to be believed, purchasers of mail order house bicycles buy in haste and repent at leisure. After a proper period of repentance, they, too, come home to roost. In other words, such buyers come in the second place where they should have gone in the first place—to the legitimate bicycle dealer.

It appears to be almost impossible to "head off" any one who contemplates buying a mail order bicycle. Primed with the mail order house literature—poor stuff though it is—they resist all efforts made to shake their confidence in the machines put forth by such concerns.

Even the sight of bicycles priced as low, or nearly as low, as those so alluringly set forth in the mail order house's advertisements, and offered by the home dealer, does not avail to turn him from his purpose. He is under a spell, and either can not or will not shake it off. Only after he has acquired possession of the wheel does disillusion come.

Then it is that the dealer can make his play.

He need not come forward with "I-told-you-so's" or ill-concealed smiles of satisfaction. On the contrary, he should sympathize with the deluded one, point out why the machine failed to stand up or run properly, and then make it plain why the cheap bicycle is the poorest possible investment.

When this has been done the way is open for an advance all along the line. It is long odds that a second attempt to effect a sale will be more successful.

Tandem Riding Still Popular.

There is such a thing as proving too much. The talk about the decadence of the tandem is a case in point. Tandem selling long ago went to the dogs, and tandem riding has followed in its footsteps. The tandem has almost disappeared from view. It is rarely seen on the roads, and the owners of such machines would sell them for much less than the proverbial song. Such, at least, is the story that is told.

Had we been questioned on this point we would undoubtedly have replied offhand that there was a very considerable element of truth in these assertions. But a recent run changed our viewpoint. Perhaps it was because we were tandem mounted, too, that we took special notice of others similarly situated.

At any rate, the result was startling. More tandems were seen than we would have believed possible. It is scarcely an exaggeration to say that out of every five cycles encountered one of them was a tandem. In almost every case the front rider was of the fair sex and the machine of the drop frame front variety. It was, a beautiful Saturday afternoon, and there was no lack of cyclists. That the proportion of tandems should have been so great was the more surprising on that account.

THE THREE OF THEM

The Trio Responsible for Bellamyizing the New England Trade.

It is no secret that the New England retail pool—officially the Equitable Distributing Co.—has guessing not a few people in the trade.

This co-operative corporation of dealers bent on buying at jobbers' prices has not only placed the jobber on his mettle, but has presented a two horned dilemma to not a few manufacturers who "would be happy with either were t'other dear charmer away." Aside from this, the company is an experiment of far reaching interest to all trades;

gymnastics he succeeded to the business of Hill & Tolman in 1889, and has since been a figure in the New England trade. The business, incidentally, has been located at 507 Main street since 1877, when it was established there by its predecessors.

Arthur Sidwell, who is secretary, and shares with Mr. Brown the active management, has been identified with the trade as far back as most men's memories run. He was "in the game" before he left England. He was among the earliest dealers in Boston, but there are few branches of the business in which he is not versed. He has been dealer, jobber, inventor, manufacturer, traveller and pretty much everything else. Few men in the trade are better known. He is good natured, cordial and deservedly well liked.

Treasurer Brown is not so widely known,

DeLONG'S DEVELOPMENT

Departs From Beaten Paths and Produces Motor Bicycle of Much Originality.

G. E. De Long, the Pierce agent on West One Hundred and Twenty-fifth street, New York, has designed a motor bicycle quite out of the common, in that everything save motor and mixer is concealed within the frame.

Two-inch tubing is employed, the top tube being made to contain the gasoline and the lower one the battery and coil; this lower tube is secured to the underside of the bottom bracket, and the end being left open permits the easy storage of the battery and coil. The frame is thus free of all impedi-



ARTHUR SIDWELL.



LUD C. HAVENER.



GEORGE H. BROWN.

its success may exert influence none can say how far or how deep.

This application of the "Bellamy idea" to the cycle trade grew out of the heads of three men who have grown gray or are growing gray in the service of the same trade—the three men here pictured—Lud C. Havener, of Worcester, and Arthur Sidwell and George H. Brown, of Boston.

While many were refusing to accept as serious the idea of an organization of the sort, they refused to become discouraged, and, sticking resolutely to the task, they brought the Equitable Distributing Co. into corporate being with a dispatch that surprised not a few.

Havener, the president, is a long headed chap who knows the value of a dollar and is awake to an opportunity. He has made a distinct success of his retail and jobbing business in Worcester, and for several years was the member of a limited and private "pool" which co-operated on the plan of the Equitable Co. From being a professor of

but he does not lack experience or acquaintance. His connection with the industry dates back some ten years, and as the buyer for the Elastic Tip Co., and later for the United Supply Co., he acquired a reputation as one of the best informed sundry and parts men in New England.

Beauty in Full Nickel.

In an editorial paragraph two weeks ago the *Bicycling World* commented on what a striking display a full-nickelled motor bicycle would be. Though unknown at the time, the idea had been anticipated by the enterprising Wisconsin Wheel Works, who had under way at that time this very thing. It will be exhibited at the approaching Stanley Show, in England, where they will have an extensive exhibit. The *Bicycling World* man who saw it can attest that the Wisconsin's full-nickelled motor bicycle is indeed a thing of beauty. Everything about it is nickelled—battery box, coil, gasoline tank, rims and all. It is bound to attract attention wherever it may go.

menta, and while the large tubing appears odd at first sight, one soon grows accustomed to it. The motor is made to form a part of the seat post tube.

A further feature of the De Long machine is a remarkably ingenious clutch which locks the cranks in any desired position and yet unlocks them as readily; the effect is to afford the rider really firm foot rests, a consummation much to be desired on a motor bicycle, on which the rider is practically coasting at all times. De Long has had his machine in use for several months, and it has given a good account of itself.

Recent Incorporation.

Jersey City, N. J.—The Stein Double Cushion Tire Co., with \$100,000 capital, to manufacture tires. The incorporators are K. K. McLaren, Evan J. Dudley and H. S. Gould, all of Jersey City.

Albert E. Marland, a Ware, Mass., dealer, was almost instantly killed last week by the bursting of his shotgun while out hunting.

(Continued from page 23.)

that is causing some eye lifting. The greatest shrinkages appear in the items of "plant investment" and "merchandise on hand," but both are offset by the transfers during the year of six plants and their stocks to the Automobile and Cycle Parts Co. Similarly \$4,000,000 in the accounts due the A. B. C. now represent the amounts due from dealers and jobbers for bicycles only, the Parts Co. having taken over all its business with manufacturers.

The whole report, however, is interesting if not enlightening, and with the figures for 1900 affords comparisons of at least some value. The president's report and the financial statements for both years follow:

PRESIDENT'S REPORT.

With this second annual report of the company the balance and profit and loss sheets submitted give its financial condition.

Starting with twenty-eight bicycle factories, the manufacture of bicycles has been gradually concentrated in ten factories to meet the changing conditions of the business, also to reduce the cost of manufacturing. Each year there has been a concentration of selling departments, and now we have arranged three general sales departments, in New York, Chicago and San Francisco, respectively, each one of which will sell all our makes of bicycles in its own territory. The manufacturing and selling of bicycles will be under the direction of one officer. With the adoption of this new policy the greatest economy will be reached and a saving of not less than \$500,000 assured. The bicycle business of 1901 was disappointing from various causes, not least of which was the stormy weather of March, April and May, which had the distinction of being the worst recorded since the establishment of the Government Weather Bureau.

The automobile department has been gradually developing, and is now on a profit paying basis. Our policy was not to offer vehicles for sale until we could produce them as good as or better than others.

At our factory in Indianapolis the Waverley, our electric automobile, is manufactured, and the adoption of the Sperry battery for its motive power has placed it in the first rank of its type. At Toledo, Ohio, we have the largest and finest automobile factory in the world, at which is manufactured our steam automobile, the Toledo, the most perfect self-propelled vehicle of its type. These automobiles have met with favor, and our product of both types is now about fifty per week and gradually increasing. The gasoline type of wagon upon which we have been working is perfected and will soon be ready for the market. An accepted model of the electric delivery wagon is completed, and in the next few months will be ready for our customers. Steam trucks with a carrying capacity of four tons and over are being built on orders at the Toledo factory.

The Automobile and Cycle Parts Co., organized and taking in all our six parts factories in January last, is proving a success

and is already upon a dividend paying basis.

The National Battery Co., owning the Sperry battery, is now located in one of our Buffalo factories, which had been discontinued as a bicycle factory, and it is sufficient to say has more orders and contracts on its books than it can fill in the next six months.

The American Wood Rim Co., to which we sold our wood rim plant at Plymouth, Ind., and in which we are large stockholders, is in flourishing condition, and paid on the past year's business a dividend of 10 per cent.

The Auto-Street Sweeper Co., in which we own a controlling interest, is a new enterprise, and promises to be a profitable one; the manufacture of the machine will give our factories a large amount of work. A

Boston Jobbers Elect Officers.

At the annual meeting of the Boston Cycle Jobbers' Association held on Thursday last the following officers were elected: President, D. R. Harvey, of the Iver Johnson Sporting Goods Co.; treasurer, J. W. Forbes, of Bigelow-Dowse Co.; secretary, Will S. Atwell, of William Read & Sons.

Of course, the recent organization of the New-England retail pool and its bearing on the trade was discussed at the meeting, but no direct expressions of opinion are available for publication. The nearest approach to one is made by President Harvey.

"Despite reports to the contrary," he says, "the Boston Jobbers' Association will not only continue in business, but will meet all legitimate competition."

STATEMENT OF CONDITION, AUGUST 1, 1901.

ASSETS.		
Plant investment.....	\$28,546,851.30	
Less depreciation.....	979,026.89	
		27,567,824.41
Cash	380,766.02	
Accounts and notes receivable.....	3,934,153.23	
Investments in securities.....	3,843,535.05	
Merchandise on hand.....	3,948,440.91	
Unexpired insurance, etc.....	53,786.65	
		12,160,681.86
		\$39,728,506.27
LIABILITIES.		
Debentures	\$10,000,000.00	
Less retired March, 1901.....	500,000.00	
		9,500,000.00
Preferred stock.....	10,000,000.00	
Less unlisted (in treasury).....	705,100.00	
		9,294,900.00
Common stock.....	20,000,000.00	
Less unlisted (in treasury).....	2,298,500.00	
		17,701,500.00
		\$36,496,400.00
Accounts and notes payable.....	2,245,843.97	
Factory bonds and mortgages.....	30,000.00	
Surplus: Balance at credit of profit and loss account July 31, 1901, after paying interest on bonds.....	956,262.30	
		\$39,728,506.27
PROFIT AND LOSS ACCOUNT.		
Profits, current year product.....	\$850,682.59	
Profits, ten months to August 1, 1900.....	855,579.71	
		\$1,706,262.30
Less: Paid interest on bonds, current fiscal year.....	\$500,000.00	
Paid interest maturing during ten months of fiscal year August 1, 1900.....	250,000.00	
		750,000.00
Surplus, as above.....		\$956,262.30

perfected model is now being completed at Toledo.

This accumulation of industries will, it is expected, fill our factories with work and distribute the expenses necessary to operate them over a greater field, enabling us to produce all our manufacturing with much greater economy.

Several of the factories discontinued as bicycle factories have been utilized for the manufacture of automobiles and batteries; the balance have been sold or rented, so that at the present time we have but one factory that is standing unoccupied and idle.

With concentration in manufacturing and selling, and with the addition of other industries, we believe the business of another year will result in profits that will be satisfactory to the stockholders of the company.

As to Hub Sizes.

Even with the present well known aversion to making constructional changes, the latter crop up occasionally. For several years there has been a tendency to get away from the extremely large barrel hubs formerly so popular, and it has now gone so far that there are on the market a number of machines fitted with the old style hubs, with very small centres. Notwithstanding this, they attract little attention. The difference between them and the barrel hubs is no longer so great as to fix attention on them.

"How to Drive a Motorcycle." See "Motorcycles and How to Manage Them." \$1. The Goodman Co., Box 649, New York. ***

REACHING A DECISION

English Trade Seems Finally to be Realizing That Motorcycles are Cycles.

London, Sept. 25.—The reports which have been published regarding the meeting which was held last week between some representatives of the Cycle Trades' Protection Association and members of the motor trade have been more or less eagerly discussed this week.

The hint thrown out to the association to the effect that that body should look after the interests of the motorcycle industry, but

per se, but wish to try motoring." There is a great deal in this contention, and it really seems to me that the attempt of the Cycle Trades' Protection Association to enroll the general motor car trade as a part of it is open to serious objection. It is just the same with those cycling papers here which attempt to deal with motor car questions, instead of sticking to the motorcycle only in their motor sections. What is the use of a cycling journal giving details of some huge racing car which is totally beyond the reach of at least 99 per cent of its readers?

Again, there is the question of the shows. With regard to the motor show it may be pointed out that motorcycles never have much

might almost say three, trades, and I have only referred to it at this length because it occurs to me that just this same state of things may be reached in your country at any time. The cycle and the motorcycle trades have much in common; but the motor trade, regarded from the point of view of the manufacturers of large cars, is more or less distinct.

A defect in the design of many motors, particularly of the De Dion type, is to be found in the fact that the passage from the combustion chamber into the cylinder presents a large opening. So long as all goes well with the valves this may be no disadvantage, but a day may come. Last week I was riding a motor tricycle, when without the slightest warning there was a crash. At first I thought that the motor axle had snapped, but I found that all the compression had gone, so I quickly located the seat of the mischief as the inlet valve. I took this out and found that the head had been torn away from the stem and dropped into the cylinder. This meant taking out the piston, and this I proceeded to do, cheerily remarking to a friend that I should be on my way again in half an hour, as I had another inlet valve with me. But on taking off the cylinder I found that the valve head had fallen crosswise at the moment that the piston was rising, and had become nipped between the latter and the top of the cylinder. The result was that the head of the piston was broken, a large hole having been knocked in it. As I was miles from any place where a new piston could be procured, I had to search for a good cycle engineer. I got him to turn off a portion of the piston head and fit on a thin plate of steel, which we riveted to the broken parts. We then brazed the piston and finally turned up the new head after some difficulty in chucking the work—English lathes and chucks are commonly built on the how-not-to-do-it style. This took some hours, as may be imagined, but the work is all right, and the only thing is that should a similar accident occur again the valve will most likely knock a hole in the cylinder head, as I am sure the steel plate on that of the piston will stand. If a couple of thin bars to form a cage were left in the casting between the combustion chamber and the cylinder this danger would be entirely averted.

Longevity of Bicycles.

Talk about the short life of the bicycle! We saw one the other day that was of the 1891 vintage—just a decade old. It was a Columbia, the first diamond frame machine put out by the Hartford firm, and had originally been fitted with either solid or cushion tires. These had long since been taken off, and air tires substituted, but steel rims had gone along with them, the change having evidently been made in the pre-wood rim era. The machine did not look as archaic as its age would lead one to suppose. To all appearances it was good for many seasons more of service.

STATEMENT OF CONDITION, AUGUST 1, 1900.
QUICK CAPITAL.

ASSETS.	
Cash	\$1,072,881.84
Accounts and notes receivable.....	4,432,987.03
Investments in securities, at actual value on August 1, 1900.....	4,004,700.00
(These investments produce an annual income of \$256,475.)	
Merchandise on hand, including finished product, raw material and supplies.	5,815,008.07
Unexpired insurance.....	44,537.70
Total quick assets.....	\$15,370,114.64

LIABILITIES.	
Accounts and notes payable.....	\$3,280,619.64
Factory, bonds and mortgages—	
Previous to consolidation.....	\$198,457.22
Less paid since September 1, 1899.....	77,457.22
	\$121,000.00
	\$3,401,619.64
Net quick assets.....	\$11,968,495.00

BALANCE SHEET.

ASSETS.	
Net quick assets.....	\$11,968,495.00
Plant investment—	
Per statement dated October 1, 1899.....	\$31,502,760.89
Less miscellaneous sales of factories and machinery closed out since October 1, 1899.....	334,745.61
	\$31,168,015.28
Less depreciation.....	1,168,015.28
	\$30,000,000.00
	\$41,968,495.00
LIABILITIES.	
Debentures—5 per cent, due September 1, 1919, in bonds of \$1,000 each, at par.....	\$10,000,000.00
Preferred stock—Cumulative, 7 per cent, in shares of \$100 each, at par.....	10,000,000.00
Common stock, in shares of \$100 each, at par.....	20,000,000.00
	\$40,000,000.00
SURPLUS ACCOUNT.	
Balance	\$1,362,915.29
Net profit, ten months ending July 31, 1900, after paying interest on bonds.....	605,579.71
	\$1,968,495.00
	\$41,968,495.00

leave the general motor trade alone, has been greatly talked over, and I gather from conversations I have had with men in both trades that this recommendation is looked upon as the solution of what may prove a complete deadlock.

As one of the principal men in the London motor trade said this morning: "The motor car business is conducted on totally different lines from those of the cycle trade, and it is perfectly distinct; the motorcycle business follows much more closely upon the cycle trade methods of business. It appeals more directly to men who have in the past been cyclists, and who are even now cyclists

chance of attracting attention at such an exhibition. The larger cars entirely outweigh the motorcycles in importance, and the public who come in out of curiosity do not give the motorcycles much of their time when the attractions of the larger cars intervene. Nor can this be wondered at. On the other hand, the motorcycle as a part of a cycle show stands out well, and at once attracts attention. I cannot understand any motorcycle maker exhibiting at an autocar exhibition in preference to a cycle show, providing that he can obtain space at the latter.

This appears to me to be the state of affairs here between the two, or perhaps I

When in doubt, take the safe course



WHEN COASTER-BRAKES ARE CONCERNED

the safe course is the Morrow Course—the Morrow brake. It is the only one which is beyond doubt or doubting.

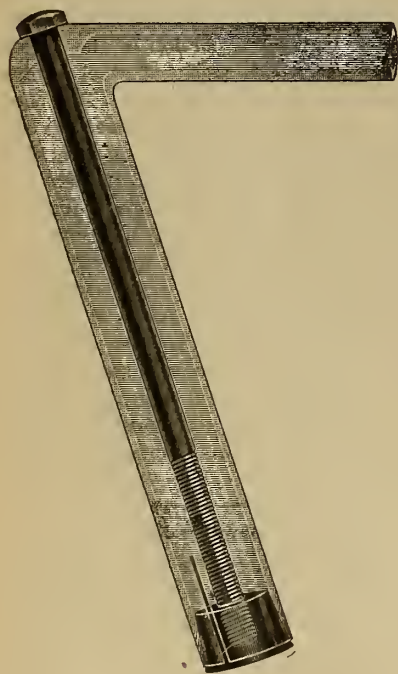
WHEN YOU ASK YOURSELF,

or are asked, "Is it as good as a Morrow?—and it is rare that the question does not occur—the question implies doubt. Then is the time to take the safe course. Then is the time to refuse to be persuaded off the Morrow course.

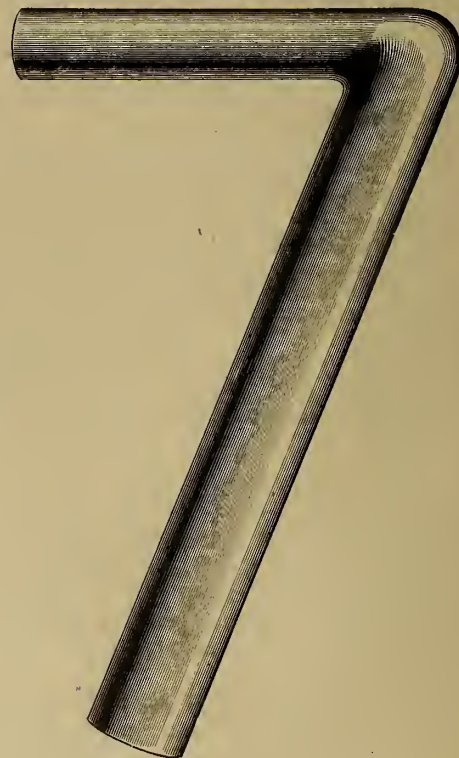
THE NEW MORROW IS READY AND TRAVELERS ARE OUT.

The one is well worth seeing; the others well worth listening to. They have a tale to tell that is full of dollars and sense.

ECLIPSE MANUFACTURING COMPANY, Elmira, N. Y.



THE ONLY FLUSH SEAT POST.



ALL

**STYLES
LENGTHS OF STEMS
LENGTHS OF TOP BARS
GOOD SEAT POSTS**

ARE MANUFACTURED BY US.

Send for our Catalog.

THE STANDARD WELDING CO., CLEVELAND, OHIO.

New York Office 94 Reade Street.

BUSINESS BROADENS

How one Dealer Reaches out and Makes Sales to new Customers.

"Oh, I can't say that I have any cause to complain of the season," said a dealer in a town of moderate size to the *Bicycling World* man recently.

"The rainy weather hurt me a little, of course," he continued, "but with that exception I have done very well. I have sold about a hundred new wheels, and my repairing and sundry trade has been more than sufficient to pay my running expenses. So, you see, although I have not made enough to retire, still there has been a fair living in it for me. That's about all a man can expect nowadays in the bicycle business.

"You see, my trade has changed around a great deal. The class of people that used to buy bicycles is in a very decided minority now; indeed, with me it has almost disappeared. My sales are made to an entirely different class, and my business relations with the latter are much more satisfactory than in former years.

"Here is a case that will illustrate my meaning. Among the score or more of New York business men who have their summer homes near here, and who are nearly all my very good customers, is one to whom I have sold two machines this season. That is not remarkable, you will say, but when I tell you that he is a man who does not ride himself and who, during the height of the cycling 'boom' absolutely detested bicycles and their riders and would have nothing to do with them, you will admit that it is a little different.

"It is, indeed, a remarkable change of front, and the reason for it will explain just the point I wish to make. It is for that reason that I cite it.

"The gentleman lives two miles from here and a trifle over a mile from a village on the other side of him. His postoffice is at the latter place, his railroad station here. The marketing and shopping for the household are also done here. Thus, you will see, there is necessitated a great deal of travel between the two places.

"Two or three years ago if I had suggested to him that the best and handiest method of covering these two points was by bicycle he would have laughed in my face—that is, if he had not become angry. But early this season I approached him diplomatically and finally induced him to purchase a bicycle for his man to use. As I knew would be the case, it proved to be a great deal easier for the latter to jump on the wheel and go down to the postoffice for the mail, or to come up here and execute some of the numerous commissions found necessary, than to hitch up a horse and drive. Besides, it left the horses fresh for the use of the owner and his family.

"Well, it got so that there was never a

clear day that the machine was not in use. Sometimes a half dozen trips would be made to the two places, and both the master and the man were highly pleased with it. To-day the former would not be without it for fourfold the money it cost.

"As this scheme worked so excellently, I determined to try another that I thought would turn out almost as well. This was nothing less than to sell my customer a second wheel, this time for the use of his guests.

"He entertained a great deal, and young people were usually in the party. Time sometimes hung heavy on their hands and they pined for something to do. Once or twice I noticed them coming to town on the machine that had been purchased for the use of the coachman. I had a little talk with the latter and found that good use was being made of the machine; in fact, on more than one occasion when he had really needed it some one of the guests had it out.

"It did not take me long after this hint to make my play. I found my customer in a much more favorable mood than on the former occasion. Indeed, he admitted, as soon as I suggested it, that it would be a good idea to have another wheel about the place, that he had thought of such a thing. This being so, it did not take me long to strike a bargain with him, and that afternoon I sent the new machine down.

"I'm not done with this particular customer, either," he said in conclusion. "Next season I shall try him on putting in a drop frame wheel for ladies' use. I think I can convince him of the desirability of such a purchase, too. It is by such work as this that my sales keep up. I am doing this sort of thing all over this section of the country."

Tale of a Tag.

One of the newest advertising dodges is the mailing of an addressed tag to which a string adheres. The merchant who receives it promptly assumes that the package to which it had been attached had become lost, and is undeceived until on the reverse of the tag he reads this inscription printed in fine type:

"No, there wasn't anything else sent. This is all. But it is not our fault. You should know by this time that we would like to send you something attached to a tag by mail, express or freight. Now we have attracted your attention, may we ask you to look over our specimen book, etc.? No time like the present, you know."

Biddle Makes a Change.

E. G. Biddle, formerly assistant manager of the sundry department of the Pope Mfg. Co., has joined the Post & Lester Co. staff at Hartford, Conn.; he will be connected with their bicycle sundry department.

To Drill Hard Steel.

Use turpentine instead of oil when drilling hard steel. It will then drill readily, when oil would be of no effect.

TRADE DETERRENTS

How bad Streets Hurt City Trade—Boston as an Example.

There are dealers and dealers, just as there are towns and towns. In some of the latter the cycle business has gone to the dogs, while in others it is still in a prosperous condition, with but little signs of a falling off.

In conversation recently with a well known tradesman, the *Bicycling World* man touched upon this great dissimilarity in different places. The former had an explanation to offer. His theory was as follows:

"It nearly all depends on the laying out of the city or town," he said. "For example, there is Boston, which is one of the deadest towns as far as cycling is concerned that can be found. To my mind it is all due to the fact that the business portion is not adapted to bicycle riding. In the suburbs—and Boston's suburbs are, of course, world-famous—people still ride and will continue to do so. And why? Simply because wide streets and roads, with smooth, well kept surfaces, invite them to do so.

"But when you come to Boston proper a very different proposition confronts you. Who—except some crank—would think of riding along Washington street? That is an extreme instance, of course, but there are dozens of other streets that are only a little less suitable for the purpose.

"A business section with narrow, crooked, crowded and poorly surfaced streets form an almost impassable barrier. It was only when the bicycle was a novelty, when enthusiasm ran high, that this natural law was set at naught. There's no fun in dodging teams, in moving at a snail's pace, in being blocked by street cars, stopped by pedestrians and jolted by crossing car tracks and riding over rutty Belgian blocks. A certain amount of this is enough for even the most ardent follower of the cycle. Sooner or later he is certain to come to the end.

"But there are cities where just the opposite conditions prevail. Why, it positively makes me turn sick with envy when I look at some of these and compare their cycle-thronged streets—right in the heart of the business section, too—with the deserted ones in Boston.

"I may be mistaken, but it always seems to me that in such places the dealers have only to reach out and take the trade that offers itself. There is no particular energy required on their part. The business is there, and it would be their fault if they did not get it. Of course, if they are no good at all, the favorable nature of their position will not do them any good. They will 'fall down' completely; almost as bad, in fact, as do the dealers in such cities as Boston.

"But it is not often that this happens. There are few dealers who can compel business, of course; but, on the other hand, most of them can grasp it when it is within their reach."

WE ARE EXCLUSIVELY

MANUFACTURERS OF TIRES.

Our efforts are concentrated in the endeavor to produce the highest grade articles that can be produced.

The most successful types now for particular people who desire THE BEST are these two:—

HARTFORD SINGLE TUBE

DUNLOP DETACHABLE

TIRES.

TIRES.

WE MANUFACTURE AND SELL THEM BOTH.

AND REMEMBER

We could never have built such an enormous business as we have to-day had we not made each pair of tires as if our very reputation depended upon their quality.

THE HARTFORD RUBBER WORKS CO., HARTFORD, CONN.

BRANCHES:

Boston.

New York.

Philadelphia.

Washington.

Buffalo.

Cleveland.

Detroit.

Chicago.

Minneapolis.

Denver.

San Francisco.

FRIEDENSTEIN'S WAY

How the Wide-Awake Jobber Disposes of American Goods Abroad.

Times change and wise merchants change with them.

It is not so many years ago that the balance of trade with this country—in the cycle business, at least—was altogether in favor of Great Britain. There was a steady stream of goods passing through the Custom House here—complete bicycles, parts and sundries of all kinds—and notwithstanding the 45 per cent duty they had to pay, buyers were found for all of them.

In the fulness of time the tide turned and began to run in the other direction. It was history repeating itself, and there is very little difference to be chronicled. The same variety of articles crossed the ocean, only this time they bore the stamp of American instead of British individuality. Buyers were found—without trouble at first, and then with some difficulty.

Among the most enterprising concerns engaged in the importation of British goods was the Anglo-American Iron and Metal Co. Its presiding genius was "Joe" Friedenstien, whose name was a synonyme for energy, and who disposed of a huge amount of goods. The changing conditions of the trade were not lost on the wideawake "Joe," and in the course of time he became convinced that a change of front was necessary, and lost little time in making it. Consequently he changed his base from New York to London, and undertook to supply the British people with American made goods.

His plan of operations is very far removed from the ordinary. As explained to the Cycle Trader, it is as follows:

"Yes, it is quite true that we are not yet quite understood either by the retailer or, for the matter of that, by some of the factors. It is equally true that we have eight travellers spending the whole of their time doing missionary work among the retailers of this country, and yet we do not sell a pennyworth of goods to any of them!

"You look surprised. Then I will explain. The South British Trading Co. does an exclusively agency business. We represent about thirty American manufacturing firms, all of whom have some specialty of one sort or another, and all of whom, in our opinion, have something worth selling in this country. Look around here and see what we have got. Well, our travellers are around all the time showing samples of these various goods to possible buyers in England, Scotland, Wales and Ireland, and I am just off to the Continent to do a very thorough European tour. And yet we do not sell a pennyworth to the retailer.

"How, then, do we do it? Every order we receive we turn over to some factor to whom we have sold some of our goods in bulk. The goods our travellers have sold are at a

fixed price, always allowing a recognized discount which enables the factor to sell our principals' goods at a satisfactory profit.

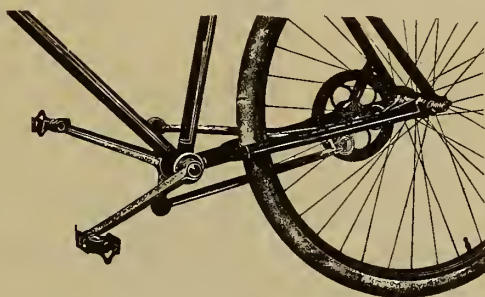
"You see, it is another variation of the prices maintenance scheme. Those factors who are our clients know perfectly well that our travellers sell at prices which will enable them to supply the goods at a reasonable profit, while, upon the other hand, the factors agree with us to sell at certain specified prices and rates of discount.

"It all works like a machine, you see. When one of our travellers has shown his

Not Like Other Chainlesses.

The Wadman Cycle Co., Utica, N. Y., who several months since promised a departure in chainless bicycles, have just placed their perfected product on the market—the Regina, it will be styled. Its construction is well shown by the accompanying illustration.

The advantages claimed are best summarized as follows: Simplicity, but two spur gears being employed; greater power with



less exertion, the power being transmitted direct, the foot traversing the most powerful two-fifths of the circle only; less knee motion than with other wheels, owing to the oscillating motion of the pedals; the rider is brought more directly over his work, which, with the long cranks, gives additional power and more complete control of the wheel.

It is further claimed that it is impossible to get the gears out of line, as they are both firmly held in a single steel forging; that all points of contact are ball bearing and easily adjusted; that there is no lost motion or back lash.

goods the retailer will want perhaps to make up a sample order. So said, so done. Then our traveller produces a list of factors, and it is ten to one that the customer is in the habit of dealing with one or other of them. The next thing is for the customer to decide through what factor the goods shall be delivered. The order may go complete through one factor, or it may be distributed among two or three.

"On the order sheets which come in from our travellers provision is always made for stating the names of the factors who are to do the business. When we receive the orders every morning we always turn them over to the factors specified on the order sheets. Sometimes no factor is specified, in which case, I am sorry to say, the order remains upon our books waiting for the time when

either the factor will change his mind or some other factor will come along.

"'Very pretty,' you say, 'but where do we come in?' We come in when the accounts are made up by our principals. We will not undertake to sell any goods in this country unless we have the exclusive agency, so that our commission is secure at the end when the books are made up, and the full extent of the British business is disclosed.

"Yes, it works out excellently. The factors are pleased; our principals are pleased, for they get their cash promptly; we are pleased, for we get our commission; the retailer is pleased, because he has not to open up new accounts; our travellers are pleased, because they have something novel to talk about, and a good talking line is half a battle, as you know.

"It is curious, certainly, that every now and again a factor will refuse to execute an order, even when the customer is worth the credit. The other day I handed an order over to a firm of merchants. It was refused, for the curious reason that they did not do business in that part of the country. Queer, isn't it? I never heard of an American firm refusing orders on those grounds. However, every firm knows its own business best, although sometimes they have little idiosyncrasies which would make you smile.

"Yes, I like doing business with Englishmen; and Englishmen have a growing predilection for American goods. It is we American agents who are the real ambassadors of peace. We promote goodwill and strengthen what Carlyle called the 'cash nexus.'"

For the Sake of Convenience.

One of the few points where the average American designer flouts—or semes to flout—public wishes is in the matter of convenience in taking wheels out of the front forks.

In all other things he either learns for himself what is most desirable for convenience's sake, and gives it, or he yields to the wishes of riders, once they have expressed them. But with front forks it is different. He persists in closing the ends, thus making it necessary to spring the fork-sides to take the front wheel out.

This is neither a pleasant operation nor an entirely safe one. Damage to one's knuckles frequently results; damage to the fork-sides is more rare, but it does sometimes occur.

It is very easy to mill a slot in the fork end, and thus allow the axle to be slipped through it. There is no real objection to this method of construction. It used to be urged that it allowed the wheel to slip out if the axle nuts should become loose. But this could not possibly happen when the machine was being ridden, and if it did at any other time no harm could be done.

There are a number of machines that have slotted front forks, of course. But they are in the minority, and their number does not appear to be added to as the years go by.

"Motocycles and How to Manage Them"; 126 pages, 41 illustrations; cloth bound. \$1. The Goodman Co., Box 649, New York. ***

COASTER-BRAKE TROUBLES ELIMINATED

IN THE FINISHED

FORSYTH

DON'T CLOSE
UNTIL YOU SEE IT.

Special Features: Simplicity (fewer parts than any other,) Lightness, Strength, Positive in Action, Fitted to either Chain or Chainless, Frictionless (coasts as easily as a chain wheel without any chain;) above all, our own **EXCLUSIVE SPECIAL FEATURE**, Regulation of the crank — throw can be adjusted without removing from the frame; no other Coaster-Brake on the market has this feature.

These few points ought to set you thinking. We have others. Better write us at once.

FORSYTH MFG. CO., BUFFALO, N. Y.

"Have a Look;

It Costs You Nothing."

1902 YALES NOW READY.

Cushion Frame Chainless — Racer —
Pace-Follower.

TRAVELERS ON THE ROAD.

The \$35 Yale is the "Best Ever."

THE KIRK MFG. CO., - TOLEDO, OHIO.

1902

SNELL BICYCLES.

NEW MODELS.

TRAVELERS STARTING OUT.

WAIT FOR THEM.

1902

HUSSEY BARS.

NEW HUSSEYS.

THE SNELL CYCLE FITTINGS CO.

TOLEDO, OHIO.

"A United America."

"THE PAN-AMERICAN EXPOSITION

At Buffalo, N. Y., arranged in the interests of the commercial and fraternal relations of "all the Americas," is described and illustrated in "Four-Track Series" No. 15, issued by the

NEW YORK CENTRAL.

This folder contains information valuable to travelers regarding Buffalo, the Exposition, and the train service of the New York Central; also maps in colors of Buffalo and the Exposition grounds.

A copy of No. 15, the "Pan-American Exposition and Express," sent free, postpaid, to any address on receipt of a postage stamp by George H. Daniels, General Passenger Agent, New York Central Railroad, Grand Central Station, New York.

RACING

October 7, "Handicap Day," at Vailsburg, 5,000 people witnessed the races. In the quarter Fisher won, Collett second and Kramer third. Time, 0.29 4-5. In the ten mile professional sixteen men competed, Kramer winning by a length, with the next half dozen riders separated by inches only. Time, 23.12 3-5. Nelson in a five mile motor paced exhibition made the following figures by miles: 1.34 1-5, 3.09 4-5, 4.46 4-5, 6.23 2-5, 7.59 4-5—6 4-5 seconds behind the world's amateur exhibition paced record. Champion rode a one mile exhibition on a motor bicycle against his own record of 1.15. Time, 1.15 3-5; second trial, 1.16 1-5. The one mile amateur handicap was won by Billington (scratch) in 2.23 1-5, Dove (20 yards) second and Merkert (20 yards) third.

According to Chairman Bachelder, one of the matters that will receive attention at the next annual meeting of the National Cycling Association, and will carry with it the recommendation of the Board of Control, is a plan for establishing a fund out of which will be granted an allowance to professional riders injured in competition. It is proposed that the fines imposed on riders by the Board of Control be utilized for this purpose, since the regular revenues of the association from memberships, permits and registrations are sufficient to meet the expenses of operation.

In an official trial for the ten mile amateur paced record at Vailsburg October 4 Nelson lowered every record from six to ten miles, inclusive, covering the ten miles in 16.23 3-5. Nelson's time by miles is as follows: 1.44, 3.24 2-5, 5.02 3-5, 6.40 3-5, 8.17 2-5, 9.54 3-5, 11.33, 13.10 4-5, 14.48, 16.23 2-5. The former record for the distance, 20.04 4-5, was made by Nelson's brother in Chicago, 1898, while an amateur.

C. G. Fisher won two motor bicycle races at the Dallas (Texas) Fair September 30, but lost a race against a horse. Fisher is en route to the City of Mexico, where he will participate in a big relay race. He is an old racing man and dealer from Indianapolis, who has made quite a pot of money "doing" the county fairs on his motorcycle.

McEachern and Walthour have doubled up and will be a team in the six days' bicycle race to be held at Madison Square Garden December 8 to 14. McFarland and Elkes, winners of last year's six day race; Gougoltz and partner, who finished third, are also entered.

In a five mile motor tandem race at Washington October 6 Thompson and Babcock beat out Sherer and Marble in 7.11. Thompson and Babcock won the two and three mile events. Time, 2.51 and 4.28, respectively.

At the Coliseum track, Springfield, October 3, Hunter, of Newark, defeated Headspeth, of Indianapolis, in a fifteen mile motor paced race. The pace was warm throughout, as the time, 27.28, indicates.

Early in November at Vailsburg Kramer and Hurley will meet to determine the championship of America. It will be the first time that the professional and amateur champions have been brought together to decide the question.

Letting Well Enough Alone.

"Let well enough alone" is still a good maxim, and one that some riders would do well to bear in mind. They are continually tinkering with their machines, and the result is that frequently they get into a hopelessly bad condition.

"Don't mount your wheel at any time without first looking to see if the nuts are



NEW YORK BRANCH: 214-216 WEST 47TH STREET.

loose at the end of the axles of both the front wheel and hind wheel, as these nuts often get loosened by vibration, and cause many an accident. See that your handle bar is not shaky," is the advice given by a writer who poses as being practical.

Really, nothing could be much further wrong than this. The machine that requires such attention is a mighty poor one, and it will get better instead of worse the longer it is used. No amount of "looking after" it will do any good. At the most it would only put off the evil day when it would become quite worthless as a machine for pleasurable riding.

Riders should, of course, understand that they cannot go to the opposite extreme and utterly neglect their wheels. To let a bearing get loose, and stay that way without any attention, is not much short of criminal. So, too, a loose nut or bolt may have serious results. An important part may fail on account of this and give the rider a bad fall.

But there is a happy mean between too much attention and utter neglect. The rider who will go over his machine occasionally and see that it is all right, but without unscrewing nuts or taking out cups or cones just for the sake of "monkeying," will get the best results.

Effects of Rest and Neglect.

"Some people seem to think that coaster-brakes require a great deal of attention, or else they won't give good results," remarked a rider the other day. "Such, at least, was the idea I had, and it was given to me by dealers and other riders.

"Now, I have found it to be just the other way. So far from being troublesome, to say nothing of unreliable, they have given me no trouble at all. In fact, they have stood up under what I know is neglect, and long after they should have attention they go on doing their work in great shape. Furthermore, they have never 'gone back' on me. Whenever I have had occasion to use the brake it responded nobly, and I have never had any uneasiness on that score.

"Here is a little incident that will bear out what I say: I have not used my tandem much of late, and it is really in need of some attention, especially the coaster-brake; that has been nearly a year without even having been lubricated. It stands to reason, therefore, that it should be oiled, and I have been intending to do this for months.

"However, this has never been done, and one would suppose that there would be trouble in consequence. Last week I got it out and went out for a ride. I thought of the oiling then, but my can happened to be empty, and as I was in a hurry to get off I thought I would risk it.

"I rode some thirty miles that afternoon, and I never knew the machine to run better. There was a smoothness about it that was really astonishing. Had it been just gone over, cleaned and lubricated, it could not have been improved.

"There was nothing particularly remarkable in this, as far as the bearings, chain, etc., were concerned. They are used to neglect. If they could only run well when they were looked after carefully they would not do much running. But with the coaster-brake it was different. I had been led to believe that it could not be neglected. But the one on my tandem stood even this test. The sprocket rim locked as soon as I began to pedal, the coasting was smooth and without noise, and the brake 'bit' the instant I brought any back pressure to bear on the pedal.

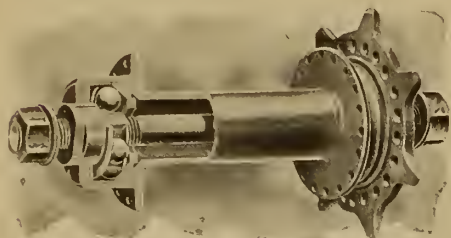
"It would be foolish, of course, to suggest that all coaster-brakes should receive such treatment, or to assert that they would work so satisfactorily under it. They wouldn't, and I was surprised myself at the way mine went. But it simply shows what the device will do, and proves the fallacy of saying that it is more troublesome than the other parts of the machine."

To Case Harden Cast Iron.

Heat to a red heat, roll in a composition consisting of equal parts of prussiate of potash, sal ammoniac and saltpetre, pulverized and thoroughly mixed. Plunge while yet hot into a bath containing two ounces of prussiate of potash and four ounces of sal ammoniac to each gallon of cold water.

CHAMPION HUBS

Write for Complete Description and Prices.



(LIGHT WEIGHT RACING MODEL.)

ALSO REGULAR ROAD HUBS.

Worthy of Their Name.

VULCAN HUBS.

Cheap but Good and Well Worth Their Price.

I. A. WESTON CO., Syracuse, N. Y.

Selling Agents, C. J. IVEN & CO., Rochester, N. Y.

HIGH GRADE

wheels must have the
best equipments.

There is nothing that gives more value for
the money than the use of the

MORSE TWIN ROLLER CHAIN



NOISELESS IN MUD, WATER OR
DUST AND ALWAYS EASY RUNNING.

The only chain having Frictionless
Rocker Joints. Insist on having the
Morse Twin Roller. Fits regular
sprockets.

Send for Catalogue and
Trade Price to

Morse Chain Co., Trumansburg, N. Y.

The Retail Record.

Nashua, N. H.—F. A. McMaster & Co.
have removed to Water and Main streets.

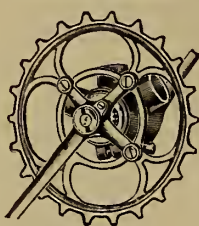
St. Albans, Vt.—The Mayhew & Wild Co.
has been dissolved. M. M. Wild retires and
W. E. Mayhew continues the business under
the name of The Swanton Cycle Fittings Co.

Red Bank, N. J.—Merigold & Chandler
have bought out T. J. Emery.

Niagara Falls, N. Y.—Wentworth & Doty,
burned out.

South Framingham, Mass.—W. H. St.
George, removed to Hollis street.

Springfield, Mass.—Adolph G. Gruendler
has filed a petition in bankruptcy, with
\$1,970.58 liabilities and \$295 assets.



"D. & J." HANGERS

FOR
Single,
Tandem,
Triplet,
Quad and
Motor Cycles.

Lightest, Nearest Dust Proof, and
Easiest Running Hanger in the World.
Park City Mfg. Co., inc., Chicago

The Auto=Bi

and all other

MOTOR CYCLE BUSINESS

of the

E. R. THOMAS MOTOR CO.

has been disposed of to the

AUTO-BI CO.

Please address all your wants in
the motor cycle line to the

AUTO-BI COMPANY

106 Broadway, BUFFALO, N. Y.

HAND AND FOOT PUMPS,

Oilers, Repair Tools,
Valves, Name-plates, etc.

Spelter Solder

Sheet Brass,
Brass Wire and Rods.

SPECIALTIES to order
MADE of BRASS.

SCOVILL MFG. CO.

Factories: Waterbury, Conn.
Depots: 210 Lake St., Chicago.
423 Broome St., New York

OILERS.

"PERFECT"

25c.

"GEM"



"LEADER"

10c.

"STAR"

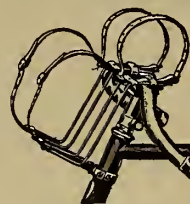


We make oilers for almost the entire trade. The
quality of our oilers is unequalled.

CUSHMAN & DENISON, Mfrs., 240-2 W. 23d St., N. Y.

WOLFF-AMERICAN BICYCLES.

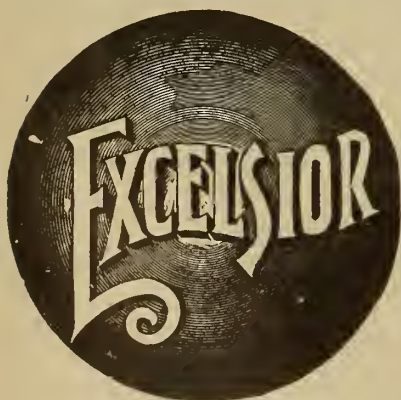
STEARNS BICYCLE AGENCY, - Syracuse, N. Y.



LAMSON-PETERSON LUGGAGE CARRIERS

The most
serviceable made.

MEGQUIER & JONES CO., Portland, Me.



STEEL BALLS

The Best in
the World.

EXCELSIOR MACHINE CO., BUFFALO, N. Y.

If You Desire Complete Motor Bicycles

You cannot get a better one than

THE MARSH.

If You Desire to Build Your Own Motor Bicycle

We can supply everything which you require
for the purpose. Write us.

The Motor Cycle Mfg. Co., Brockton, Mass.

If
You Are
Interested
in
Automobiles



WILL SURELY
INTEREST YOU.

It is published for the information
of the average mortal; no dic-
tionary of mechanical
terms is needed to
understand it.

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AT 123-125 TRIBUNE BUILDING,
NEW YORK CITY.

\$2.00 PER YEAR.
10 CENTS PER COPY.

SAMPLE COPY ON APPLICATION.

Tires and Fork Clearance.

One good purpose at least is served by the present universal use of small tires—the upper and lower rear forks are never brought so close together that the tires will not have sufficient clearance between them. No complaint is heard on this score.

The time is not so very far distant, however, when just the opposite was the case. A designer would draw his frame with an eye to the use of a small tire—say, $1\frac{1}{2}$ inch. It would go through the factory, and when it came to be assembled a larger tire would be put on it. Or, after it came into the hands of the dealer—sometimes of the rider—a larger tire would be substituted for the one originally fitted to it.

In either case there would be trouble. Say the tire proved to be $1\frac{3}{8}$, or occasionally $1\frac{1}{4}$ inch. The clearance then might be sufficient if the wheel and tire were both perfectly true and the tire clean. But the instant any of these conditions were departed from harm would result.

In going through a bit of mud, for example, enough of it would adhere to the tire to strike the forks as it went through, scratching the enamel and making a very annoying noise. If the wheel got out of true the matter was even more serious. The tire would touch the forks, and it would take only a limited amount of rubbing to wear it through to the fabric.

British Parts Pay a Profit.

In spite of the depression in the cycle trade, it has been a very successful year for the Birmingham Small Arms Co., the big British concern which cuts such a figure in the parts business on the other side.

Dividends have just been declared which will bring the year's disbursements for this purpose to 20 per cent on the ordinary shares and 5 per cent on the preference. In addition, the directors recommend the payment to the ordinary shareholders of a bonus dividend of one fully paid ordinary share for every two shares now held by them.

Importance of Good Tool Steel.

In modern workshop practice a great deal turns on the quality of the tool steel. It is useless to have strong, fast running lathes if the tools will not do justice to their qualities, and the rate and depth of cutting have to be reduced below what the machine is designed for. This point was emphasized at the Paris Exhibition, where a lathe was shown working at such a speed that the tool was actually dull red. This tool was of such hard material that it did good work under those conditions, to the great astonishment of most engineers who saw it.

Cheap Way to Blue.

A cheap way to blue small steel pieces: Put core sand in a Babbit ladle, heat hot, put work in, shake the ladle over the fire until the required color is obtained.

With One Exception,

Every vehicle designed for the carriage of persons is equipped with springs or cushioning devices of some sort. Even railway coaches running on the smoothest of rails have both spring trucks and cushioned seats.

Vehicle-builders recognize that rigid carriages are relics of the ox-age.

The bicycle is the one exception. Why?

There is no sound or sufficient answer.

The light, low-built bicycle is subject to every inequality of the road. Its rider experiences jars and jolts and vibration that are felt in no other vehicle. Perforce, every rational consideration makes for the employment of a cushioning device; the bicycle needs it more than any other type of vehicle in existence, and the HYGIENIC CUSHION FRAME provides it in the neatest, simplest, most compact and most efficient form possible.

Progressive manufacturers have "acknowledged the corn," and the dealer has but to ask for them to get cushion frame bicycles. With the passing of the "era of cheapness," no bicycle affords him more profit or more ground for impressive and logical "selling-points." The wiser ones have already recognized the fact and are making the most of it. Are *you* of the number or are you content to let the good things go to others while you devote yourself to the "bone-shakers"?

HYGIENIC WHEEL CO.

220 Broadway,

New York.

If you ride or sell,
or intend to ride or sell
motor bicycles

"Motocycles and How to Manage Them"

is the very book you need.

Every page teaches a lesson. Every illustration "speaks a piece."

And there are 126 pages and 41 pictures, too!
Price, \$1.00.

The Goodman Co., 124 Tribune Bldg., New York.

The Week's Patents.

683,463. Bicycle Support. Robert Hehner, Hutchinson, Minn. Filed Oct. 8, 1900. Serial No. 32,341. (No model.)

Claim.—A bicycle support comprising the sheath with slot lock notch and ratchet teeth, of the sliding plunger working within said sheath, the spring geared supporting legs pivoted to the lower end of said plunger, and working within said sheath when folded, and the pawl pivoted to said plunger by a connection that works through said slot, said pawl having the lug and shoulder which co-operate respectively with said ratchet teeth and lock notch, the said pawl further being spring held for pivotal and lateral movement, substantially as described.

683,605. Mould for Making Saddle Pads. Jonathan A. Hunt and J. E. Weatherwax, Westboro, Mass. Filed Dec. 11, 1900. Serial No. 39,476. (No model.)

Claim.—1. A mould for making cushions or pads, comprising a form or receptacle made of a single containing wall suitably shaped to receive the material, said form having perforations therein for the passage of steam to circulate through the material contained in the form, and a plate to extend entirely within the form to cover the material, said covering plate being also provided with perforations, and means for holding said plate in the form to compress the material.

683,692. Push Button. Carl J. Landin, Boston, Mass. Filed Feb. 9, 1901. Serial No. 46,631. (No model.)

Claim.—1. In a push button, the combination, with a supporting plate, of a contact piece and a contact spring insulated from each other, a revoluble toothed cam wheel for pressing the said contact spring against the contact piece and holding it there, and means for revolving the cam wheel step by step for one-half the pitch of its teeth at each step, substantially as set forth.

683,740. Pneumatic Wheel Tire. Albert M. Ferguson, Winnipeg, Canada, assignor of two-thirds to Thomas Carroll Allum and Henry Duncan Metcalfe, Montreal, Canada. Filed March 29, 1901. Serial No. 53,537. (No model.)

Claim.—A single detachable pneumatic tire having two longitudinal bands fastened to the inner circumference of the tire overlapping on a metal wire longitudinally stretched between said two bands and the tube; a ratchet post with its pawl to tighten said wire and secure tire to the rim, all substantially as set forth.

683,779. Velocipede. Joel Lund, San Francisco, Cal., assignor of one-half to Stephen G. Chapman, same place. Filed Aug. 2, 1900. Serial No. 25,683. (No model.)

Claim.—1. In a velocipede, a fixed central spindle, a revoluble sleeve on said spindle, longitudinally movable thereon, a driving wheel revolubly mounted on said spindle, in splined engagement with said sleeve, a hollow nave revolubly mounted on said sleeve, a laterally movable frictional brake disk on said sleeve, means for moving said brake disk laterally in either direction by the rotation of the sleeve, an overhanging brake shell on said nave, inclosing said disk, for engaging the latter on its outward lateral movement, face clutches between said disk and the rotary nave for engaging the driving mechanism with the said nave, and face clutches between said disk and the stationary frame for arresting the rotary movement of the brake disk, substantially as specified.

683,793. Manufacture of Cycle Saddle

Clips. Ephraim Phillips and Howard T. Phillips, Birmingham, England, assignors to Tomcox, Limited, London, England. Filed Sept. 5, 1900. Serial No. 29,047. (No model.)

Claim.—The hereinbefore described process of making cycle saddle clip bodies having a central tubular eye and two lateral tubular coned trunnions with cylindrical screw threaded ends integral therewith, which consists in first forming from sheet metal a blank shaped somewhat like the required clip body and of about double the width, second, piercing such blank with two apertures in the location and centrally of the width of the coned parts, third, uniting such apertures by a slit, fourth, raising and folding the side parts of such blank so as to open the slit to the diameter of the central eye and to form the eye and to form the coned and cylindrical ended trunnions, and fifth externally screw threading the cylindrical trunnion ends, as set forth.

Saddle Works the Pump.

It is doubtful whether the bicycle will ever reach the stage where it will be turned the cold shoulder by inventors. It appears to possess a fascination for them which they cannot shake off.

As evidence a New York State man has just taken out a patent on a saddle actuated pump for bicycles, and expects to startle the cycling world with it. He, of course, imagines it to be a novel idea! The pump is placed in the saddle post tube, and is almost entirely concealed from view. The device provides a lever to drive the piston downward. There is a spring which forces the return of the piston after each stroke, and after the tube has been connected with the tire the pump can be operated easily with one hand, leaving the other free to support the wheel. After the tire is filled the saddle is forced downward until the spring latch enters the slot in the under side of the horizontal tube, locking the saddle firmly in place.

Both Claim the Invention.

The Canada Cycle and Motor Co., Toronto, is applying for a continuation of an injunction to restrain William S. Wilson from making any further application for a patent on a bicycle brake. The defendant, Wilson, claims that he is the inventor of the brake in question, and the company disputes his claim. Meanwhile they go on manufacturing.

Substitute for Borax.

Copperas, 2 ounces; saltpetre, 1 ounce; common salt, 6 ounces; black oxide of manganese, 1 ounce; prussiate of potash, 1 ounce. All pulverized and mixed with 3 pounds of good welding sand. High carbon steel can be welded with this at a lower heat than is required with borax.

Willing but Vague.

"I am willing to do anything," said the applicant for work.

"All right," said the hard-hearted merchant. "Please close the door behind you when you go out."—(Ex.)

The Week's Exports.

Despite assurances of certain English patriots that the American bicycle is a failure in the United Kingdom, the trade with the "tight little isle" shows no symptoms of abating. Last week, indeed, was marked by one of the heaviest shipments in months—value upward of \$15,000. The British possessions, Africa and New Zealand in particular, also again showed their appreciation of the American article by purchases footing well up into the thousands. The record in detail, the week closing October 1, follows:

Antwerp—1 case bicycles, \$25.

Amsterdam—1 case bicycles, \$25; 14 cases bicycle material, \$316.

Argentine Republic—1 case bicycle material, \$48.

British Possessions in Africa—73 cases bicycles, \$6,450; 17 cases bicycle material, \$1,286.

British East Indies—21 cases bicycles, \$1,407.

British Guiana—4 cases bicycles and material, \$304.

British Australia—45 cases bicycles and material, \$1,523.

Brazil—5 cases bicycle material, \$90.

British West Indies—24 cases bicycles and material, \$562.

Cuba—12 cases bicycles and parts, \$869.

Copenhagen—22 cases bicycles, \$336; 14 cases bicycle material, \$650.

China—8 cases bicycles and parts, \$462.

Dutch Guiana—24 cases bicycles and material, \$562.

Danish West Indies—1 case bicycle material, \$10.

Genoa—1 case bicycles, \$25; 9 cases bicycle goods, \$180.

Glasgow—2 cases bicycles, \$70.

Gothenburg—1 case bicycles, \$20.

Hamburg—17 cases bicycles, \$350; 24 cases bicycle material, \$1,437.

Havre—2 cases bicycles, \$55; 6 cases bicycle material, \$268.

Hong-Kong—1 case bicycles and parts, \$236.

Japan—27 cases bicycles, \$1,173.

Liverpool—41 cases bicycles, \$1,025; 6 cases bicycle material, \$60.

Lausanne—3 cases bicycles, \$192.

London—20 cases bicycles, \$390; 143 cases bicycle material, \$12,049.

Mexico—1 case bicycle material, \$198.

New Zealand—77 cases bicycles and material, \$5,706.

Philippines—1 case bicycle material, \$70.

Rotterdam—2 cases bicycles, \$80; 10 cases bicycle material, \$288.

Santo Domingo—1 case bicycles, \$20.

St. Petersburg—8 cases bicycle material, \$342.

Southampton—14 cases bicycle material, \$848; 2 packages motorcycle parts, \$900.

Swansea—2 cases bicycles, \$27.

Vladivostock—1 case bicycles and parts, \$80.

U. S. of Colombia—1 case bicycles, \$25.

To Soften Steel.

Cover it with tallow, heat to a cherry red in a charcoal fire, and let it cool of itself.

The Bicycling World

AND MOTOCYCLE REVIEW.

In which is incorporated "The Wheel and Cycling Trade Review" and the "American Cyclist."

Volume XLIV.

New York, U. S. A., Thursday, October 17, 1901.

No. 3

PRIZE MONEY AWARDED

20th Century Mfg. Co. Cuts its \$4,000 Melon—The Fortunate Ones.

It paid to sell the 20th Century lamps this season in more than the usual sense of the term. Now that the substantial evidence of the fact has been distributed, some of those in the trade will appreciate the full force of the remark.

The evidence takes the form of the 20th Century Mfg. Co.'s checks for good round sums which were mailed last week to those who were wise enough not to lose sight of the \$4,000 in cash prizes which that company hung up early this spring. As was then made plain, the competition was open to all jobbers and dealers, the money being so parcelled as to give all a fair chance at it. "Sell 20th Century lamps" was the only urging that went with the offer. Those who best heeded the urging and who returned the greatest number of coupons signifying sales, and who, in consequence, received the checks were as follows:

Jobbers:—

First—Willis's Park Row Bicycle Co., New York City, \$500; second, New York Sporting Goods Co., New York City, \$400; third, American Bicycle Co., Hartford, Conn., \$300; fourth, Simmons Hardware Co., St. Louis, Mo., \$200; fifth, Honeyman, De Hart & Co., Portland, Ore., \$100; sixth, John S. Leng's Sons & Co., New York City, \$50.

Retailers:—

Class A—Irrespective of population: First, Siegel, Cooper & Co., New York, \$500; second, Sears, Roebuck & Co., Chicago, \$250; third, Cash Buyers' Union, Chicago, \$125.

Class B—100,000 to 900,000 (in proportion to population): First, J. A. Zucker, Cleveland, O., \$400; second, R. C. Hamlin, Los Angeles, Cal., \$200; third, Theo. F. Bentel Co., Pittsburg, Pa., \$100.

Class C—10,000 to 100,000 (in proportion to population): First, John Evans, Ogden, Utah, \$300; second, O. H. Dietrich, Allentown, Pa., \$150; third, Big Four Cycle Co., Kalamazoo, Mich., \$75.

Class D—1,000 to 10,000 (in proportion to population): First, Chas. Reinard, Baileys

Harbor, Wis., \$200; second, Aug. Quinque, Harleysville, Pa., \$100; third, F. I. Rockfeller, E. Quogue, N. Y., \$50.

The contest closed on the first inst., and as stated the \$4,000 were distributed as above last week, the coupons having been counted and the winners certified to by wholly disinterested parties.

Pan-American Plums.

Of the Pan-American awards announced last week, those articles identified with the cycle trade to "catch the judges' eye" are as follows:

Bicycles—Geo. N. Pierce Co., gold medal.

Motor bicycles—E. R. Thomas Motor Co., bronze medal.

Tires—Pennsylvania Rubber Co., gold medal; Fisk Rubber Co., bronze medal.

Coaster brakes—Eclipse Mfg. Co. and Universal Coaster Brake Co., silver medals.

Lamps—20th Century Mfg. Co., silver medal.

Cyclometers—Veeder Mfg. Co., silver medal.

Goodrich Deal off.

After closely approaching the point of consummation, the negotiations of the Rubber Goods Mfg. Co. for the purchase of the B. F. Goodrich Co., Akron, Ohio, as reported exclusively in the Bicycling World last week, have been broken off. The price proved the stumbling block. The Goodrich interests, it is reported, held out for some \$6,000,000, and no compromise figure could be reached.

Cleveland Concern Quits.

A deed of assignment was filed at Cleveland, O., last week by the Cleveland Distributing Co., 288 Bank street, in the Insolvency Court. The company dealt in bicycle and automobile supplies. C. F. Eberhardt is its president. The liabilities are \$2,000 and the assets \$3,000.

Weston's Acquisition.

Following their recent purchase of the Jamestown Mfg. Co., the I. A. Weston Co., Syracuse, N. Y., have placed another plume in their cap. They have acquired the entire rim and wire wheel business of the Reed & Curtis Machine Screw Co., of Worcester, Mass.

GAYLOR SUCCEEDS METZ

Takes Over the Orient Management—More Attention to be Given Bicycles.

The long expected reorganization of the Waltham Mfg. Co. is now fairly under way. The first move in that direction was made last week, when L. B. Gaylor was installed as general manager; he entered upon the duties at once. He succeeds to the position previously held by C. H. Metz.

Mr. Gaylor is no stranger to the trade. He was one of the organizers of the Eagle Bicycle Mfg. Co., and was its first mechanical head. Later he interested the Messrs. Black, of Erie, Pa., in bicycle manufacture, and the Black Mfg. Co. and the Tribune bicycle were the fruits of his work. Both factory and bicycle earned their reputations under Gaylor's supervision. That the Orient interests will profit by his skill and experience it is reasonable to anticipate.

In this connection it may be said that under Mr. Gaylor's management more attention than ever will be concentrated on the bicycle end of the Waltham Mfg. Co., which earned a profit this season; the automobile interests of the company will not be lost sight of or be suffered to lapse, but the Orient bicycle will be the first and chief concern of the new management.

Kokomo Comes East.

The Kokomo (Ind.) Rubber Co. have finally planted their standard in New York—at No. 1,662 Broadway. Leo. Schlaudecker is manager of the branch. Kokomo tires have made such a good reputation for themselves and are so worthy of consideration that it will be surprising if Schlaudecker does not considerably enlarge their circle of adherents in this part of the country.

To Make Motorcycles in California.

The California Motor Co. has been organized at San Francisco with Lewis Bill, president; J. W. Leavitt, vice-president, and J. F. Bill, secretary and treasurer. While automobiles are in view, the immediate purpose of the company is the manufacture of a motor bicycle invented by R. C. Marks, formerly of Toledo, Ohio, who with E. E. Stoddard and H. A. Burgess constitute the firm.

ALL IN THE FAMILY

Grinbergs and Morrisises Enter Into a Deal That is Full of Suggestion.

The Manhattan "Storage" Co., of Philadelphia and almost any other place, as occasion and job lots require, and the same whose fraudulent advertising and methods the *Bicycling World* recently exposed, have made another move that is certain to make them subjects of renewed and, in some instances, of solicitous interest.

The move takes the form of a circular of substantially this effect: "Mrs. Sarah Morris and Mrs. Hannah Grinberg beg to announce that they have made over to their loving husbands, Dave and Adolph, respectively, their interests in the firm of Grinberg & Morris, trading as the Manhattan Storage Co."

Mrs. Morris and Mrs. Grinberg do not state whether the transfer was made in consideration of love and affection or the usual \$1 bill. They do state, however, that the sale includes the assets at 605 Market street, Philadelphia; 44 Cortlandt street, New York, and 85 Main street, Rochester, N. Y. The bill of sale does not bear date of the year 5662, which the families celebrated so recently; for legal purposes 1901 was employed.

It is suggestive that no mention of the establishment on Park Row, this city, is made in the notice of the rearrangement of family affairs.

Surrounding circumstances make it appear that the Grinberg-Morris announcement, innocent as it seems, was no sudden outgrowth of the Fast of Guadalupe. Rather does its inspiration appear to have been derived from the laws of the good old State of William Penn and Matthew Quay—the "homestead law," in particular.

Under the provisions of this act, one's wife's property—i. e., real estate—is exempt from execution.

Those who claim to be informed allege that the wife of David, otherwise Mrs. Grinberg, and the wife of Adolph, otherwise Mrs. Morris, were and are possessed of considerable real estate, which real estate was the foundation for the credit extended to the firm of Grinberg & Morris, otherwise the Manhattan "Storage" Co.

Mrs. Grinberg and Mrs. Morris having bowed themselves out of the company—if not off the real estate—Mr. Grinberg and Mr. Morris are now in full possession of the more or less complete stocks of doubtful and prehistoric but everlastingly guaranteed bicycles, tires and sundries "seized (in their minds) and being sold (to the gullible) for storage charges" in the three cities named.

The fact has interested the credit agencies not a little; indeed, the little arrangement between husbands and wives has brought about a change in the rating of the concern that is as startling as it was sudden.

Income from Storage.

To the stereotyped question, "How's business?" the Brooklyn dealer made the usual reply that he could not complain.

"I am still making a living," he went on, "and I suppose that is as much as can be expected. I make a sale now and then, and with the repairing and everything else I manage to come out all right."

"There's one thing that is helping to pay expenses since the pleasant weather has set in. That is my storing department. During the summer business in it dropped off to almost nothing, and I was deprived of a nice little revenue. But when September came it brisked up again, and will probably continue good until winter comes."

"At the present time I have stored with me something over fifty bicycles. They bring me in five cents apiece per day, or about \$45 a month. They belong to people who ride in to business from the suburbs, or who work in New York, and my place being convenient for them they leave the machines here."

"What shall I do when the cold weather comes? Oh, I shall work some things on the 'side.' In fact, I am doing this now."

"I have two or three little articles that I sell, and which bring me in a little income. They are specialties—one of them I have made for me, with my name on it—and they retail at a price that leaves a good profit. Taking them altogether, they bring me in quite a respectable sum. Most dealers have got to do something of this kind now."

Champion Thief or Liar.

Unless John J. Graham is a bigger liar than he is a thief, he holds the record in the cycling stealing line.

Graham was gathered in by the Boston police last week and, according to his confession, he rated it a dull day when he did not place at least one bicycle to his record as a thief.

There are now 17 wheels at Police Headquarters for which owners are wanted.

Chief Watts has asked the police of a score of cities and towns near Boston to invite losers of wheels to call at the Detective Bureau and look at the bicycles on display. The number there are of all sorts and sizes. Most of them are men's models.

Graham says he is 22 and that he lived at one time at Manchester, N. H. In that State he served a six-months' sentence for stealing a mileage book. In his confession he admits having stolen wheels every day since May 1.

In his confession Graham said that he had committed thefts at Concord, N. H.; Wakefield, Melrose, Malden, Lexington, Watertown, Hyde Park, Waverley, Winchester, Reading, Brockton, Somerville, Chelsea, Cambridge and a number of other places, the names of which he could not remember.

Kerosene for Aluminum.

Use kerosene in drilling or turning aluminum, advises one who has used it.

TO CUT DOWN CAPITAL

American Bicycle Co. Makes Another Move in the Interest of Economy.

It was officially given out on Monday that the directors of the American Bicycle Co. had resolved to recommend to the stockholders a reduction in the authorized capital stock of the company, amounting to \$80,000,000, to \$26,996,400. Of the authorized capital stock, something like \$30,000,000 has been issued. Exactly \$3,003,600 is held in the treasury, of which \$2,298,500 is common stock. The idea is to reduce the authorized capital to the actual stock outstanding, which amounts to nearly \$27,000,000. A special meeting of the stockholders will be held on October 30 to act upon the resolution. All the large shareholders have already signified their willingness to vote in favor of the reduction.

It is understood that a large number of industrial organizations contemplate similar action. The statement is made that when the craze to concentrate industrial concerns was at its height promoters acted indiscreetly in the matter of capitalizing the various companies in which they were interested. Companies were incorporated with authorized capital stocks far in excess of the intrinsic value of the underlying plants. Rarely did the demand for stock exceed the supply. A number of corporations succeeded in unloading a large amount of their stock on an unsuspecting public. Others were not so fortunate, and now find themselves burdened with a lot of useless stock that does not appeal to the investing public.

Another reason advanced for the movement of certain industrials to reduce their authorized capital stock is that in a number of States the question is being discussed whether authorized capitalization of only the actual amount of stock issued by a corporation shall be taxed. As industrial companies can increase their stock at will, providing such increase is agreeable to shareholders representing two-thirds of the stock, they feel safe in writing off a large portion of their stock in order to escape possible increase in taxation.

Sager's Cushion Frame.

The irrepressible J. Henry Sager, of Rochester, N. Y., is "at it" again—this time with a new cushion frame, over which he waxes enthusiastic. The rear stays, which extend past the seat mast are slotted and fitted with plunger, piston and coil springs. The seat post mast is attached to the bottom bracket on a pivot joint, the same as is used on chainless cushion frame wheels. Mr. Sager proposes to put the price so that the device can be applied to any wheel at a cost not to exceed \$5.

ONE WOMAN'S OPINION

Why she Ceased to Cycle and What she Awaits to Renew her Interest.

They had been talking about nothing in particular and everything in general, when some one mentioned cycling.

"Cycling?" repeated one of the ladies. "Why, how that brings up old memories, and pleasant ones, too! I haven't ridden for two or three years, and don't believe I could push a bicycle now. I'm getting old."

"Yes, it does seem a long time since we used to ride. Almost before the flood, in fact. But they were glorious times, and I would give a great deal to bring them back again."

"Do you remember the days when we used to take long trips? We would start off early in the morning, take dinner at a hotel away out in the country, and get home by night. Was it on account of its being a new experience that they were so thoroughly enjoyable, or were we younger then and more capable of enjoying things? I would like to know. Anyway, it's all over now, and we have only the remembrance of it all."

"But why did you give it all up, and why don't you ride now, if it gave you so much pleasure?" asked the *Bicycling World* man, who had been an interested listener.

"No, no; I could not do it," came the quick reply. "I'm not strong enough. It got to be terribly hard work toward the end. The hills used to almost kill me, and at the end of a day's ride I would be completely done out. Really, I don't understand how I was able to keep it up so long."

"By the time everybody got to riding I was rather glad to quit. There was not the same pleasure in it as when we were only a few and had the roads almost to ourselves. It used to make me dizzy to look at the hundreds of people riding everywhere, making a business of it, their sole thought seeming to be to cover the greatest possible number of miles in a given time. That took all the romance out of it."

"But I never enjoyed better health nor had as good a time as when I rode. I am often tempted to take it up again, now that the crowd has dropped out. It seems as if it ought to be just as it was at first. But I know that I can't. I got my wheel out once or twice and tried, but it was pleasant only for a few minutes. Then I would get tired and the wheel would push hard and I wanted to get down and walk."

"I do wish I could take it up again, though. If we did not have so many hills, or if our roads were better, or if the wheel did not seem to push so hard, it would be possible. But as it is I know it is useless to even think of it."

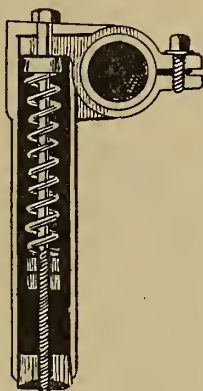
"What you want is a motor bicycle," said the *Bicycling World* man, half jokingly. "That would give you all the pleasure of a bicycle without having to push it."

"Oh, would it? That would be grand! To have something to help you whenever you got tired, something to take the hard work off you, or all the work if desired—that is what I want. If a motor would do all this, then I want one."

Cushioned Bar From Iowa.

While the anti-vibratory handlebar is almost as old as the bicycle itself, the Neff cushioned bar, here illustrated, is easily the neatest, most compact and most rational appearing that has ever been placed on the market. If it is half as good as it looks its makers—Smisor Bros., Webster City, Iowa—should not want customers.

The illustration really explains the construction and principle of the bar so fully



that description is unnecessary. The internal expander and the forward extension demonstrate its up-to-dateness. Only drop forgings and seamless tubing enter into its makeup. The makers assert that the bar is perfectly rigid on the upward pull, as in hill climbing, the spring yielding only to downward pressure.

In these days of motorcycles, and when riders are more inclined to consider their comfort, an attractive and rational novelty such as this should meet with a considerable sale.

Koons Goes Wrong.

Harry Koons, a clerk employed by George W. Nock, the Philadelphia jobber, was arrested on Friday last on a charge of stealing about \$2,000 worth of goods from the store. L. Engelhart was also arrested as an accomplice of Koons. Nearly all of the stolen property has either been recovered or located. Koons was employed by Nock for three years. Engelhart was also employed there for a short time last spring. It is believed by the firm that Koons, unknown to Mr. Nock, had a key for the store, and that he returned to the store at night and carried off rubber tires, lamps and so on. He denies the accusation, but Engelhart, it is said by a member of the firm, acknowledged that Koons used to bring the goods to Fourth and Walnut streets, where he would be in waiting.

"*Motocycles and How to Manage Them*"; 126 pages, 41 illustrations; cloth bound. \$1. The Goodman Co., Box 649, New York. ***

WANT THEIR \$50,000

Britishers With a British Judgment Come Over to Attempt Collection.

After vainly trying to collect in Great Britain its judgment given against the Gormully & Jeffery Mfg. Co., the North British Rubber Co. has crossed the ocean and will endeavor to make collection in this country.

The United States Circuit Court at Chicago has been asked to enforce the payment of the judgment for \$50,000 entered in the English Chancery High Court of Justice against the Gormully & Jeffery Mfg. Co. in favor of the North British Rubber Co. and William Erskine Bartlett. Bartlett was the inventor of the famous Clincher tire.

The suit in question grew out of the alleged infringement of the Bartlett patents on the Clincher style of pneumatic tires. The G. & J. Co. built up a flourishing business in its beaded edge tire in Great Britain, and was finally sued by the North British Rubber Co. for infringement. The case was stubbornly fought, and finally went to the House of Lords, where, as in the lower courts, the decision went against the American concern.

The acquirement by the A. B. C. of the G. & J. Co. occurred just about this time.

Catering to the Celestial.

The Chinese have an intense love for pictures and artistic ornamentation, such as flowers and figures, writes Consul Miller from Nanchang, where a fair business in bicycles is reported. Those desiring to manufacture for the Chinese trade should make a careful study of this trait of their character, as in most things it will materially improve the sale of their goods. Articles that are to be sold in packages should always be ornamented to suit the Chinese taste. The strength of the Chinese regard for ornaments and pictures of a cheap nature will be appreciated by observing the sale upon the streets of every Chinese city of pictures and posters, such as are spread broadcast all over the United States free.

Jones Buys Bouril's Interests.

The Manitowoc (Wis.) Cycle Works, heretofore a partnership of Charles Bouril and William P. Jones, is now the sole property of the latter, who has purchased Bouril's interests. The concern is one of the healthiest of the smaller assembling plants in the West, and does a good business throughout the State.

Weston Goes West.

It is safe to say that of recent years than the Barwest coaster brake no new device so quickly won favor and general acquaintance. Incidentally, Frank F. Weston, the active man in the Barwest Co., left for the West this week to further matters.

ANOTHER CHAMPION ON A NATIONAL.

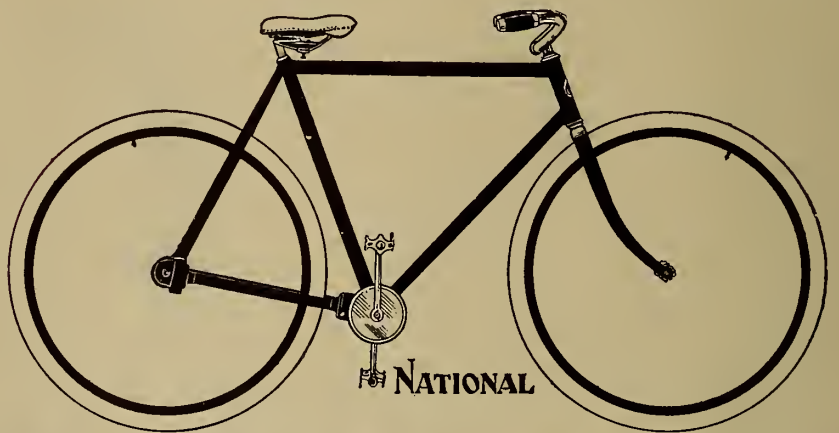
EDDIE "CANNON" BALD SAYS:

BUFFALO, N. Y., June 11th, 1901.

National Cycle Mfg. Co., Bay City, Mich.:

Gentlemen:—The Model 44 Cushion Frame Coaster Brake Chainless National Bicycle has been one of the most satisfactory mounts I have ever had. It makes an ideal wheel for business purposes, and I can recommend it to anybody desiring a complete bicycle embodying all the latest improvements.

EDDIE C. BALD.



NINE YEARS' EXPERIENCE

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Our expert rubberman knows every hook and crook of tire-making.

There is no tire virtue which he has not incorporated in the Fisk.

No better tire can be made; we doubt if anyone else can make as good.

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CHICOPEE FALLS, MASS.

THE BICYCLING WORLD

FOUNDED 1877
and MOTORCYCLE REVIEW

In which is Incorporated
"The Wheel" and the "American Cyclist."

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Change of advertisements is not guaranteed unless copy therefor is in hand on SATURDAY preceding the date of publication.

Members of the trade are invited and are at all times welcome to make our office their headquarters while in New York; our facilities and information will be at their command.

To Facilitate Matters Our Patrons Should

Address us at P. O. Box 649.

NEW YORK, OCTOBER 17, 1901.

The Truth Tritely Stated.

Many of those who came in with the boom and who, measuring everything of a cycling nature by the height of that abnormal boom, now fill the air with pessimism, forget one thing, i. e., that these existed a healthy cycling interest and a fairly healthy cycle trade before the faintest shadow of a boom projected itself on the screen.

There were manufacturers, and every city and town had its quota of dealers. At that time none viewed the bicycle as a get-rich-quick medium, and all seemed content with the normal sales and profits which fell to their lots. If anything, there was then more reason for pessimism than there is now, but little or none existed. The skies did not rain indigo simply because every one in the business did not accumulate a fortune in the course of a season.

The point is just this: As there was a cycle trade long before the boom was thought of, so will there be a cycle trade long after it has been forgotten.

The fact is remarked not for the benefit

of those who are content with normal conditions and returns and who are not given to wishing and whining for impossible and improbable short cuts to riches, but for the possible benefit of the impatient or pessimistic souls whose eyes have gone aslant because of constant straining for the coming of another boom, or of rainbows that will deposit brimming pots of gold at their doors.

Still Room for Improvement.

Still waters run deep, says the old saw, and there is a pretty general agreement as to its truth.

Is there any similitude between such waters and the deep silence that still prevails regarding 1902 construction? Does the very unusual lack of information concerning such features presage changes of importance? Or is it because the trade has nothing new to offer that it refrains from taking the public into its confidence?

The latter is the more probable answer, of course. There could hardly be very much fire without some smoke appearing, and in the absence of the latter it is a fair inference that there is "nothing doing," or at least not much.

It is pretty generally agreed that there is small room for change in the standard chain bicycle. It has been labored over too assiduously and earnestly during the past dozen years to stand in much need of change. One does not look to the carriage trade, for example, for yearly remodelling of patterns. They come at much less frequent intervals.

It should be remembered, too, that in the bicycles referred to constant changes are neither desired nor desirable.

They are sold at a price, a price that can rarely be exceeded. Changes are costly, and now that the rider is no longer willing to pay for them they must of necessity be few.

Nevertheless, there is a field for the designer, and the more diligently he labors in it the better it will be both for him and for the trade in general.

The higher priced bicycles—and this, of course, means the more modern ones—can be still further improved, just as they are themselves an improvement over the cheaper ones. The features which distinguish them from the standard machines have not been brought to absolute perfection, nor has finality come to claim them as its own.

Even beyond these features, however, there are depths that are yet untouched.

Inventors have not devoted years of labor

—usually wasted labor—to the improvement of the bicycle without touching on weak points. They have striven to make it better, to reach their own or other people's ideals, and their failure has not always been due to the impracticability of the devices they have evolved.

It may be, on the other hand, that something entirely new and unheard of will come to the front. Father Time may have another pneumatic tire, another coaster-brake, up his sleeve, to be drawn forth at the time deemed fitting.

At any rate, there is sufficient incentive for designers to work on, in the hope of stumbling across some of these epoch-making inventions.

The Trade's False Friends.

Having demonstrated by word and deed their lack of faith in the cycle trade, certain of the journalistic backsliders who, after having fattened for years at the cycling crib, are now hurrahing loudly for automobiles and the while scratching voraciously for the plump pickings that they believe are held by the newer industry.

Carrionlike, however, their appetites are still keen for cycling food, even though their hearts lack faith and regard for the bicycle and the bicycle trade.

With these publishers it is not a case of being "happy with either were 't'other dear charmer away"; they can be happy with both, and seem to imagine that while stabbing the older one in the back they can delude both charmers into believing that they are devoting to them equal and assiduous attention and care. The effort is so transparent as to be grotesque, and is deceiving few.

The one thorn in the side of these "gay deceivers" is the *Bicycling World*. The fact that it remains true to the cycle trade, and that the cycle trade is giving it its hearty and substantial recognition and support, fairly wrings the souls of these itching and voracious backsliders.

In their desperate endeavors to prove themselves deserving of the cycle trade's support they show their teeth whenever the *Bicycling World* is mentioned; the mails are loaded with blackguarding references to this paper, which are returning with boomerang force to their authors; they are learning that the cycle trade does not consider itself dead or dying and that it does esteem the publication that remains true to it and is bent not on tearing it down, even by inference,

but on upholding it without "ifs" or "buts."

The cycle trade is not the tin can to be tied to the tail of the automobile industry, that these two faced publishers are trying to make of it. Their contentions that cycle dealers must "take on" automobiles or perish is the cry of the demagogue and an insult to the intelligence of those engaged in the cycle industry. It is a cry that is leading the impressionable beyond their depths.

Whatever the demand for bicycles, it is a hundredfold—yes, a thousandfold—greater than the demand for automobiles. For years to come it is likely that this condition will obtain. Outside of the larger centres, few cycle dealers have stores large enough, capital great enough or clientage numerically strong enough to embark in the automobile business and to make it a paying investment.

The price of one of the self-propelled vehicles, as we have said on previous occasions, is equivalent to the price of a season's stock of bicycles.

To so divert capital and divide interest and attention is to weaken both the buying and the selling forces, and while the quondam cycle journals that urge and advise it may line their own pockets they are luring on many who will return to curse them.

No man can serve two masters. No publication can serve two trades. All attempts to so do have failed.

Where attempts to serve two masters or two trades are made there must be a division of zeal, a division of loyalty—it means divided faithfulness, and faithfulness knows no degree of division. One must be either "for" or "against." The fact is apparent; it is incontrovertible.

The *Bicycling World* is for the bicycle trade without "if" or "but" or equivocation or reserve of any sort. It is for the cycle trade, and for no other. Our faith is sincere and undiminished. We "sink or swim, survive or perish" with those whose interests we have served for nearly a quarter of a century, and for whom we are still serving and will continue to serve, and who have accorded and are according us their support.

To weaken or to endeavor to divert and turn into other channels the forces of the cycle trade savors of the reprehensible coming from within the trade. It is significant that the effort to that end is being made by the mushroom journals that came into the trade with the boom and that went out with it, though they seek desperately to avoid realization and recognition of the fact. It

will be cruel of any one in the trade to aid the deception. They are going; let them go! They are smothering the bicycle in their pages; they themselves deserve to be smothered.

If one's benevolence inspires the casting of a crust to the backsliders, let it be all crust. They deserve no better. Now that they are very much less than half bicycle papers, they are worth that much less to the bicycle man who has money to spend. The fact is glaringly apparent. Pay them no more. They are simply using the cycle trade as a bridge to sustain them until they can get a secure footing on new ground, and privately they do not attempt to deny it. They will abandon the bicycle entirely so soon as they feel themselves safe.

Saddle Signs.

From the best indications the hammock type of saddle, which has steadily gained ground during the past three years, will poke its nose further to the front next season, if, indeed, it does not turn the trade tide its way.

The reports to this effect constitute a wholesome sign in that the hammock saddle is not a cheap saddle; it has won, and is winning, its position purely because of its "classiness" and in the face of the ever present obstacle of price.

To the unknowing, no saddle appears easier of manufacture; to the knowing, none is more difficult, as not a few saddle makers can grimly attest. All efforts to cheapen it have failed so signally that it may well be writ that nothing is so cheap as a cheap hammock saddle.

Unlike the cheap hard saddle, the cheap model of the hammock or suspension type does not afford even a degree of satisfaction. It is either good or bad; and, fortunately for all, no successful attempt at disguising the bad has yet been achieved.

How Shall They be Built?

It is no longer a question whether motor bicycles will or will not be built; that has already been answered in the affirmative. The problem now before those interested is, How shall it be built?

In other words, attention is now being centred on the form of the resultant product. As long as there were doubts as to its future makeshifts could be tolerated. Any combination of a bicycle and a gasoline motor would do, provided the latter worked occasionally. How it was attached to the bicycle

made comparatively little difference. That it should be attached was the all important thing.

But all that is being changed. Next year, even, many buyers will have cut their eye teeth and wish to know more about the machine offered them than the mere fact that it is a motor bicycle. They will begin to ask questions—questions that will be to the point.

There is now, and must necessarily continue to be for several years, considerable diversity of opinion regarding many features of motorcycle construction. But it will not be long before certain broad principles are laid down, certain do's and don't's tacked on all specifications that are anywhere near right, certain standards set up that must be followed by those who woo Success.

This progress is pretty sure to be along well defined lines—lines that even now can be pointed out with some degree of exactness.

What Tariffs Imply.

The Associated Chambers of Commerce of Great Britain have "whereas and resolved" that free trade is a bad thing for the kingdom, and that therefore they will welcome a so-called protective tariff.

Over here, where we have seen and felt and paid for it, we have seen the folly of such a tariff, and would welcome the other thing.

The tariff is the refuge of the youthful and misguided nation and of the old and fearful one. In the latter case it is tantamount to a frightened confession that the nation, despite its age and the experience that comes with age, is unable or incapable of holding the pace of progress—that it has not learned or cannot learn the lesson of economical manufacture, and cannot therefore compete with its rivals.

A bicycle is likened to a travelling bridge. The diamond frame is the span and the axles of the wheels are the abutments on which it rests. The form of the span, the disposition of the metal and the material of which the span is made form a combination which makes the diamond frame of a bicycle the strongest span, or truss, in proportion to weight of metal ever put together.

It is better to say a little worse than you mean than to mean a little worse than you say

POLICY THAT PAYS

**"Commercial Courage" Best Describes it—
An Example of How it Wins Out.**

"Whew! That was a narrow escape!" exclaimed the dealer, as he followed with his eye the retreating form of his customer. "How nearly I did come to putting my foot in it!"

The Bicycling World man betrayed his interest, and asked why.

"That was one of the times when one has to think quickly," the dealer continued. "That man has just bought a chainless machine, fitted with a cushion frame and coaster brake, and there was no old wheel to take in trade. So you can imagine what such a sale means at this season of the year. And to think that the fat was almost in the fire, and all my own fault, too!"

"Well, here's the story: He came in about ten minutes ago. He is a well known business man here, a man noted for his quickness of thought and action, and one who is always in a hurry. Time is money to him, and he never cares to spend any more of the latter than is absolutely necessary.

"He came at me with a jump. His boy wanted a bicycle—a foolish desire, of course, but he supposed it would have to be gratified. The next thing was, which bicycle was the best, how little could it be bought for, could it be delivered this afternoon, and why was it the best? These questions were thrown at me in a quick, incisive way that impelled replies of a like fashion. I pulled myself together, resolved to play for high stakes, and plunged in.

"At the first mention of \$75 he darted at me a look that almost accused me of attempting to extract that sum from his pocketbook with felonious intent. He repeated the sum after me with a world of meaning, remarking significantly that this was 1901. I gasped and struggled desperately to get my wits together and frame a suitable reply.

"He cut me short with a demand to know, pointing to the wheel that happened to be nearest to him, how much that one was. As luck would have it, this was one of the cheapest machines that I had in the place—a machine of good reputation and one that was really good value at the price. Mechanically I told him this. The while I tried to decide whether it was best to hold out for the high priced machine or clinch the sale on this one. Such a sale would be something, and it could be made without difficulty and without danger. Why not end it right now?

"At the thought, however, my gorge rose, and I made up my mind to take a stand. The bicycle business was in a bad way, I thought, but I'd be hanged if it is as bad as all that. Here was a man with the money to pay for a good bicycle and a willingness to do so if he could be convinced that he

was getting value for his money. Why, then, should he be allowed to purchase a \$25 machine—just such a one as a laboring man making \$10 a week would get—and go away thinking that the bicycle business had really gone to the dogs and that the best there was could be had for such an absurd figure? Not if I could help it would such be the case.

"So, my anger possessing me, I burned my ships behind me, and in a few words gave him my opinion of the cheap machine. Then I passed to the best one I had in the store, and told him again and again that it was the one he ought to buy, and why. If it was a matter of price, I said, if he did not care to pay the price of a good machine he should get the cheap one, by all means. But if he wanted something that represented the highest type of cycle construction, something that would be far and away superior to anything he could buy at or about the first figure, here was his opportunity, and this was the price. Then I went on to tell him just why one was superior to the other, pointing out the new features and describing them in detail.

"I guess I must have impressed him, I was so much in earnest. At any rate, he waited until I paused, and then said that I could send the high priced machine around to his house. And without another word he walked out of the store.

"When I finally realized this, and recollected how nearly I had come to hauling down the flag, I hardly knew whether I was on my head or my heels. But I certainly felt thankful. And I feel sure that if we dealers were more in the habit of taking the bull by the horns in this manner there would be a change for the better."

The Universal's Award.

The Pan-American award of a silver medal to the Universal Coaster Brake simply serves to direct renewed and greater attention to that device. The merits of the Universal had already impressed those who go below the surface of things, and this award is calculated to help the device come more fully into its own. It is fair to say that the only reason that it did not get a gold medal is because only silver medals were awarded in its class.

Burroughs Gets his Discharge.

W. H. Burroughs, the New York cut-price jobber who, trading as the Burroughs Cycle Co., recently went into insolvency, has been granted a discharge in bankruptcy by the United States Court. He swore off debts amounting to \$8,397.

How to Copper Wire.

To copper the surface of iron or steel wire have the wire perfectly clean, then wash with the following solution, when it will present at once a coppered surface: Rain water, three pounds; sulphate of copper, one pound.

THE TWO EXPOSITIONS

The Parts Played by the Bicycle at World's Fair and Pan-American.

To the man fond of instituting comparisons there is food for thought in the difference between the bicycle exhibits at the Pan-American Exposition and the World's Fair in Chicago in 1893.

The latter came just before the "boom," the former are made after it has receded. Bicycles were more in the public eye in 1893 than they are now, even though not so many of them were used. In the former year, however, people talked bicycle quite as much as they rode it. Nowadays it is quite the other way.

That the Chicago exhibit should have been much the larger and more comprehensive is only natural. It was all this. Beside the home product, or even ahead of it in the elaborateness of the stands, the showing of machines, etc., there were the bicycles of foreign manufacture—British, of course, almost exclusively.

Neither pains nor expense had been spared to make the displays attractive. But it is only plain truth to say that they did not attract.

There were no crowds around any of the stands. Even visitors strolling casually through the building paused only long enough to see that bicycles were shown, and then passed on. Occasionally people would come there in search of a particular exhibit, but this was all.

At Buffalo this year the bicycle exhibits totalled only three—these, of course, being all native. No attempt had been made to rival the rich and ornate displays of the World's Fair, or to emulate them in point of cost. But there were taste and intelligence shown in the arrangements of the exhibits, care taken to keep everything in apple-pie order, attention given to inquirers or observers.

Nevertheless, these three exhibits did receive attention. People stopped and looked, asked for catalogues, made inquiries.

Whether it was idle curiosity that prompted them, the craving of the souvenir fiend for "free graft," or a real desire for information, is another matter. But there was an interest, and that fact alone stood out in marked contrast to the reception met with by the exhibits seven years before.

Present Conditions Properly put.

"The bicycle craze has died out and the beautiful little machine no longer is a fad, but it has taken its place as a 'common carrier,' furnishing men of limited means the opportunity of shortening distances and saving time," is the sane view, aptly expressed, of Malcolm McDowell.



KOKO TIRE



**THERE'S
NOTHING BETTER**

**SIMPLY
BECAUSE**

NOTHING BETTER

CAN BE MADE.

Does not a tire of the sort
appeal to you?

**KOKOMO Rubber Co.
KOKOMO, Indiana.,**

GEARS AND WEIGHTS

Why Reform in These Particulars is Desirable if not Demanded.

"Why don't you preach against high gears?" asked an old rider of the *Bicycling World* man the other day. "They have done more to hurt cycling than any other thing that could be mentioned."

He was reminded that this was a subject that had been threshed out again and again, until there was nothing new left to be said and nothing old that had not been said a hundred times. Notwithstanding all this, people continued to ride high gears just the same as if they had been praised to the skies.

"Well, but you ought to start in again," he persisted. "I used to ride a 92 gear; a year ago I came down to an 82 inch, and now, if I live until next season, I shall drop another 10 inches. That will bring me down to about where I ought to be."

"You ought to say something about high gears on women's bicycles, too. I don't wonder that so many women have quit riding. The surprising part of it is that they kept at it so long. Just look around at the average drop frame machine and then say whether you can express surprise. You will find that women have had to use machines that were heavier than men's and geared just as high. Is it any wonder that they complained that cycling became hard work after a while?"

"Give a woman a twenty pound machine, with a gear somewhere in the neighborhood of 60, and she'll find that it is a pleasure to cycle. But with the average woman's wheel it is just the contrary, and that's why she has dropped out."

There is more truth in this allegation than is altogether pleasant to contemplate.

Heavy wheels women had to contend with at first, of course. In the old solid-tire days their machines frequently exceeded fifty pounds—a weight that seems almost incredible now. But they were geared low—52 inches was about the average—and they were used by only a few women. Young and active ones usually they were, and even with all their enthusiasm and vitality they had no easy task.

Had it not been for the appearance of the pneumatic tire and the reduction in weights that followed close on its heels, cycling for women would never have assumed any remarkable proportions. These threw the pastime open to nearly all women, and it was taken advantage of to the full. But it will be recalled that most manufacturers made a specialty of light drop frame machines, and it was these that had the greatest popularity.

Then, too, high gears did not make their appearance at first. In 1894 and 1895

women's machines were pretty nearly ideal in the two matters of gear and weight. The former was in the neighborhood of 60 inches, the latter not very far in excess of twenty pounds. It is not remarkable that they were very satisfactory.

Since then construction has undergone great improvement, but it is no heresy to assert that in the respects mentioned designing has not advanced. There is room for such an advance, and it will come some day.

The same is true, although in a much less degree, as far as men's machines are concerned. Weights can be cut to advantage, and gears should by all means be reduced, and materially reduced. It is plain that riders will not demand these changes; it might be well for the trade to give them without being asked and see if they would not accomplish some good.

What's the Matter With Boston?

"I don't know who the dealer was who told you that while Boston itself is dead its suburbs are alive with bicycles, but, whoever he may be, his observations do not agree with mine," remarked the veteran Will R. Pitman in commenting on an interview which appeared in last week's *Bicycling World*.

"I have just returned from a somewhat extended trip up that way, and of all the places I visited Boston, in which I include its beautiful parkways and suburbs, was easily the most deserted village, cyclingly speaking. Even on the most perfect roads I saw few bicycles. On the occasion of the Boston Bicycle Club's annual "Wheel About the Hub" the sight of twenty-two of us on bicycles was apparently so strange and unusual that the people actually stopped and stared at us in open mouthed wonder.

"The conditions are simply un-understandable. That such a beautiful country, intersected by such glorious roads, should be so little appreciated is beyond me. There must be something the matter with the people or with the men who are in the business to sell them bicycles.

"In Springfield, only two hours from Boston, the conditions are reversed. There every one seems to ride. The streets seemed alive with bicycles. It seemed as if there was one or more in front of every store on Main street."

Claims "Coast" is Canadian.

The origin of the word "coast" has always been a moot point. Many apparently plausible derivatives have been advanced, but all have failed of general acceptance. In stamping one of these as "not a bad impromptu but scarcely satisfactory to the scholar," an English M. A. with calm assurance avows that the word "'coast' is Canadian, and in Canada it is used in tobogganing as a term for descending a hill slope." It probably originated with the French Canadians, he says. "since it is evidently derived from the French *côte*, a hill, or hillside."

BLOCKS AND ROLLERS

Striking Difference in Chains Used Here and Abroad—Reasons Advanced.

One of the many points of difference between this country and Great Britain in the matter of cycle practice is found in the construction of chains.

Across the water the roller chain is ubiquitous and wellnigh universal. Here its use is restricted, the block type still holding the popularity which it has had for almost a decade. Nor is there the slightest sign of a change in either country. In each the belief in the chain of its choice appears to be firmly rooted.

It is curious to note the explanation of one of the foremost English chainmakers for the British liking for roller chains. Its better conduct under adverse conditions figures prominently, of course. When the chain is dirty, it is pointed out, the block type is at a disadvantage. One would think it a fair inference from this that American riders keep their chains cleaner than do British ones. But the liking of the latter for gear cases would seem to put this theory at naught. Or is it possible that gear cases have really gone out of fashion, even in the "tight little isle"?

"Now, it has been thought by some," says the chainmaker referred to, C. R. Garrard, "that the roller was superfluous; let us see why we put the roller.

"There have been immense quantities of chains made, known as block chains. Now, we see that when the block (in this case) enters the tooth space it goes to the bottom of the space at one side of it, and during about half a revolution it has to creep under pressure to the other side of the said gap or space, then the chain straightens itself and takes it out of the tooth.

"Now, the tooth and the block have very small areas of contact, the outside of the block or roller is in the best position for catching dirt, grit, etc., and in actual practice lots of cutting and mutilation have taken place in 'block' chains, and a general abandonment of their use has ensued. The roller has the same dirt and grit to contend with, and the same very small area of contact, but the movement does not take place between the outside of the roller and the tooth; the roller sticks and binds on the tooth under the pressure, and its larger and better protected area, viz., between the inside of the roller and the sleeve, gives the movement during the creep under pressure.

"A table will show that the loss in the turning effort of the roller is only some 55 per cent of that of the block chain (both dirty)."

F. E. Castle, of the 20th Century Mfg. Co., is en route to 'Frisco on his annual visit to the coast. He is, of course, also "making" the larger cities on the route.

WE ARE EXCLUSIVELY

MANUFACTURERS OF TIRES.

Our efforts are concentrated in the endeavor to produce the highest grade articles that can be produced.

The most successful types now for particular people who desire THE BEST are these two:—

HARTFORD SINGLE TUBE

TIRES.

DUNLOP DETACHABLE

TIRES.

WE MANUFACTURE AND SELL THEM BOTH.

AND REMEMBER

We could never have built such an enormous business as we have to-day had we not made each pair of tires as if our very reputation depended upon their quality

THE HARTFORD RUBBER WORKS CO., HARTFORD, CONN.

BRANCHES:

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Minneapolis.

Denver.

San Francisco.

GOING OVER OLD GROUND

How the Motor Bicycle Parallels the Pneumatic Tire—Influence of Guarantees.

No better augury for the success of the motor bicycle next year could exist than is found in the announced determination of more than one manufacturer to stand back of it with a broad and liberally interpreted guarantee.

No move could do more than this to gain or restore public confidence in such machines. With the introduction of all new things there must follow some trouble. This should be looked after and removed wherever possible. It is not reasonable, it is not even good policy, to place the burden of this on the purchaser and make him pay the piper for his own dancing. There should be a buffer interposed between him and the inevitable troubles that follow in the train of anything of this kind, and no one is better qualified to play this part than the manufacturer and seller of the article in question.

It will be recalled that the pneumatic tire went through the same experience. Furthermore, it was not until the trade relieved the rider of the burden that he placed his full confidence in their air tire. Starting from that point, it entered upon the career of success that has marked it since.

With the early tires the same policy that now obtained was followed. The maker guaranteed the tire against defects in material and workmanship, and when these developed he made good his guarantee. But this fell far short of what was desired—nay, needed. There was at first a wide and deep-seated distrust of the Irish invention in the matter of its ability to hold air. If it failed to do this—whether by reason of puncture or slow leakage—the difficulties in the way of repairing it were so great that they daunted almost every one who contemplated them.

To make matters infinitely worse, this failure to hold air did not affect the guarantee. A puncture was a misfortune the burden of which was borne by the rider. He had to repair it, or have it repaired, and the cost of such repair was very great.

It is very probable, in the light of after events, that the pneumatic tire would have won out just as completely in the end had nothing been done to allay the suspicion with which it was at first regarded. But it is very certain that its progress would have been much slower. It is to the credit of the tire manufacturers, however, that they did not wait to test the matter. They sized up the situation, and came out with a broad guarantee that covered punctures as well as defects in construction.

The result was that the public forgot or laid aside its distrust and "plumped" for the air tire. The new plan worked well; it cost the makers some money, and entailed a lot of work and annoyance, but it soon caused

the retirement of all other forms of tires—even the arched cushion.

The time came when the puncture guarantee feature had outlived its usefulness. Punctures became more infrequent, and their repair was a matter that caused small concern. They could be repaired quickly and at small cost. Therefore, this clause in the guarantee was rescinded, and it again applied to defects only, just as a guarantee should do. There was but little outcry, and in a very short time the matter was forgotten.

So it should be, and probably will be, with the motor bicycle. The liability of the manufacturer should begin and end with his assertion that the machine is free from defects of workmanship and construction; the time will come when it will do this and no more.

But that time is not here now, and in



NEW YORK BRANCH: 214-216 WEST 47TH STREET.

recognizing this fact the trade shows a precedence worthy of high praise. Something more is required to induce purchases on a large scale. The confidence that manufacturers feel in their goods must be communicated to the buyers. They must be convinced, must be assured that the motor bicycle is no experiment, no patchwork thing for them to pay for and perfect, but a reliable, practical vehicle, worthy of a place in every household.

In no way can this be so well done as by making the guarantee broad in letter and even more liberal in spirit.

The motor that does not go should be made to go, or it should be taken away at no cost to the owner. The motor that is continually giving trouble should be dissected and the trouble located; then the responsibility should be fixed and instructions given which should result in an improvement; and, as before, the owner should be dealt with leniently and charitably. Such treatment will repay its cost many times over.

"The Motor: What It Is and How It Works." See "Motocycles and How to Manage Them." \$1. The Goodman Co., Box 649, New York. ●●●

MEDICINE FOR BURNT STEEL

Here's the Man Who Upholds it and Who Produces His Prescription.

"While there are those who speak in decidedly sceptical terms of certain 'secret' 'powders' or 'medicines' for restoring burnt steel, says a contributor to the American Machinist, I would like to say that for eight or nine years I have known of and used such a preparation.

"I have no reason to believe that this 'medicine,' as it was called by the first blacksmith whom I saw using it, will make spoiled steel 'better than before,' or that it will justify any one in buying poor steel and trying to make good steel out of it, nor will it warrant the deliberate abuse or burning of good steel. But I know from experience that it will render valuable service where steel has been burned or maltreated under the hammer till it is full of flaws and about spoiled. For instance: I have often taken a common rock drill, a pick or a cold chisel which has been burned and hammered (I believe more tool steel is spoiled by the hammer than the fire) till it is full of visible flaws and ready to fly to pieces at a touch of the hammer, and I have completely cured it, so that it would stand as much hard work as a good, new piece of the same steel, and that is saying considerable, especially in the case of the drill.

"Heat the specimen to be treated somewhat hotter than is required for welding, roll or dip it in the 'medicine' till it is thoroughly coated, bring it again to a welding heat, dip quickly in the 'medicine' and hammer thoroughly—not to 'drive the virtues in,' but to be sure that all cracks and flaws are completely welded—then draw and temper the same as usual. If the specimen has considerable size, or if it still shows imperfections, repeat the dose. The result will surprise any one who has not tried it, and I find it pays to have this stuff always handy to the forge, nearly as much so as borax or sand.

"Any one may try it for a few cents. It is simply carbonate of iron and powdered borax, equal quantities, mixed. It can be had at any drug store. An excess of borax will do no harm, as the hot steel will pick up the borax faster than the other, and after a time you will need to add more borax. It won't cost a dollar to try it."

To Harden Small Tools.

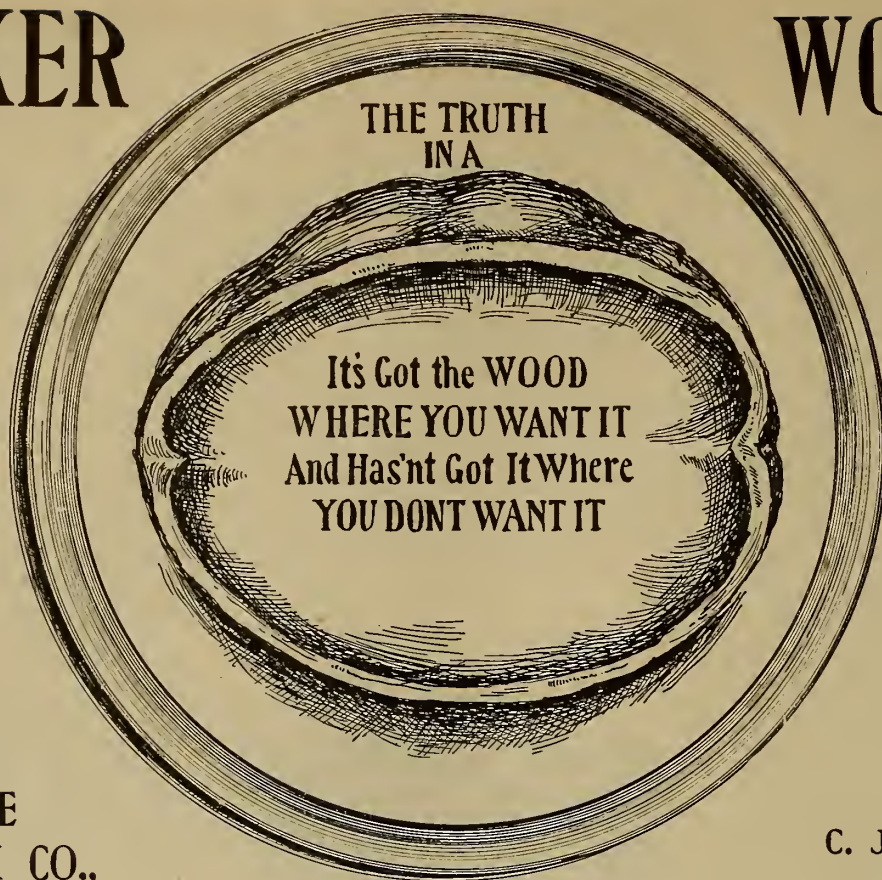
To harden small tools or articles that are likely to warp in hardening, heat very carefully, and insert in a raw potato, then draw the temper as usual. A bar of hard soap is also good, but will not make the tool as hard as the potato will.

To Soften Steel.

Heat steel to a low cherry red, and when cooled so it is black in a dark place cool in the juice or water of common beans.

THE TUCKER

WOOD RIM



All Styles

Get Prices

**TUCKER BICYCLE
WOODWORK CO.,**
URBANA, OHIO.

C. J. IVEN & CO.,
ROCHESTER, N. Y.
Sole Selling Agents.

He's Coming

The Bicycle Manufacturer

who will make the Morrow Coaster Brake a part of his standard equipment.

The opportunity is a rich one and is open to all comers. Who'll be first to see it and take advantage of it?

Who's your guess?

The MORROW merits the right to be classed as useful and as pleasure-giving as the pneumatic tire, and as the tire is a necessary part of the equipment of a bicycle, so will the Morrow become.

Eclipse Manufacturing Co., Elmira, N. Y.

BEGINNING OF THE BICYCLE

How the Pedal-Propelled Machine Came In-to Being—Interesting Reminiscence.

Who first fitted cranks and pedals to the front wheel of a two wheeled velocipede and thereby constructed the first bicycle?

With the exception of "Who made and who used the first bicycle in England?" the Sphinx never propounded a more profound and difficult problem, says the English veteran, Harry H. Griffin, in a paper dealing intelligently and well with a subject dealt with by many before him.

Strange as it may appear, incredible as it may seem, the early history of the modern bicycle, more particularly in England, is, he says, enshrouded in an impenetrable veil of mystery and doubt, despite the comparatively recent period of its introduction, little more than a single generation ago.

HOW HISTORY WAS JUGGLED.

The difficulty of tracing the line of development back to its point of origin has been enormously increased by irresponsible scribblers and the reckless assertions of those with unreliable memories. To jump forward in order to look backward—there was a glaring instance of this at the Stanley Show held at the Crystal Palace in 1891—an interesting loan collection of old cycles was brought together, but unfortunately the committee, with blind and innocent faith, accepted the dates, in most cases ridiculous, placed on the machines by the lenders. As a consequence bicycles built in 1872-'73 were labelled "1862" and so on. What was worse, the press generally accepted these dates, for lack of better knowledge, and thus history became worse confounded, particularly as the high prestige of the Stanley Club gave a sort of artificial guarantee to what it had accepted.

Five years later the present writer was asked to supervise and arrange a similar collection held in connection with the Crystal Palace Carriage and Motor Car Exhibition, opened in May, 1896. The dates given by many possessors of old cycles were absurd in the extreme. Bicycles claiming to have been built in the early and middle sixties were common. One gentleman offered a "bicycle built in 1861." On being pressed for proof he replied, "Some one told me so; that is good enough for me." Such is the slender foundation for most cycle history. As far as was possible the correct date was put to every machine in that show, though some owners did not appreciate the naked truth.

BIRTHPLACE OF THE BICYCLE.

From the commercial point of view the inventor of the bicycle was undoubtedly a French mechanic named Pierre Lallement, and his invention came to birth in 1865-'66. He was employed by M. Michaux, a carriage builder, at 29 Avenue Montaigne, Champs Elysées, Paris, a spot which may be fairly considered as the birthplace of the cycle

trade of the world. Michaux owned an old *céléripède*, and this inspired Lallement, just as its counterpart had inspired Macmillan, in Scotland, a quarter of a century before, but he avoided mechanical complications and built a machine with the long required direct cranks. At first it was looked on as a toy, and Lallement used to disport himself about Paris, chiefly on the pavements in the Place de la Concorde, and was accompanied by a companion on roller skates. The advertisement soon bore fruit, and in 1866-'67 an extensive demand sprung up, and Michaux materially improved the successive construction of the machines which were shown by him in the International Exhibition held in

LALLEMENT COMES TO AMERICA.

Paris in 1867. Lallement did not remain to share in the glory he would have gained. He went to America in the summer of 1866, and, finding the bicycle was, naturally enough, unknown there, he took out (jointly with J. Carroll, of New Haven), Patent No. 59,915, dated November 20, 1866, and so may be said to have actually established the industry in the New as well as in the Old World. But he failed to make his fortune, and was for many years employed by the great Pope Cycle Mfg. Co., and died in comparative obscurity some five or six years ago in the United States. Surely he deserves a monument—an honor which has been accorded his employer, Michaux—seeing that to his commercial enterprise the early development of the industry was due. Michaux, on the other hand, did an enormous trade, but even then the spirit of "fable dates" was rife, for he informed a correspondent of an English paper that the old hobby-horse, or rather *céléripède*, that he had was "nearly a century old"!

KARL KECH, THE UNKNOWN.

For many years Lallement was given the credit of being the first to apply direct driven cranks to the wheel of a velocipede. Though the first to make practical and public use of the notion on a newly built bicycle, he was not actually the pioneer. In March, 1865, Messrs. Woosin and Maresdale patented in France a remarkable machine with three or more wheels to carry several riders. Those over the wheels drove them by direct cranks. This machine I saw at the Paris Cycle Show of 1895 or 1896, where it created much wonder, though years before it had been described in an English book by the present writer. But even these Frenchmen were forestalled by a forgotten inventor named Karl Kech, and his discovery is another curious chapter in cycle history. That distinguished scholar Sir Frederick Pollock, Bart., during one of his many Continental rambles, visited the National Museum in Munich, and found a couple of old hobby-horses. As an old cyclist his attention was caught by cranks and pedals on one of the machines. On returning to England he at once communicated with the writer. The official description stated that these machines had been used by Court messengers at Nymphenburg about 1820. If, however,

they are, as is claimed, of the "Draisienne" type, they would belong to a later period, when Baron Drais de Saverbrun was Master of Woods and Forests, and so materially improved the original *céléripèdes* that they were given his name. I knew the cranks could not belong to that remote period, and inquiries proved that they had been added by one Karl Kech, about whom nothing more seems known, in 1862. If this date is correct Germany is before France in this matter; even if so, however, Kech's can only be regarded as a "freak" invention, and of no commercial importance, especially as no second machine of the kind has been traced.

THE FIRST ENGLISH BICYCLE.

The future may discover who was the man to make, sell or ride the first bicycle in England, but it is not likely to succeed where both present and past have failed to find any reliable data to work on, despite various shadowy claims. One inventor, Edward Gilman, of Prospect Place, Wandsworth, in his patent, No. 19,811, of August 1, 1866, for a tricycle, puts in a side claim for a two wheeler, but this, if indeed it was ever constructed, had long levers, as in the old Scottish models. His claim may therefore be dismissed. Certain it is that the direct driven bicycle was unknown here in 1866, though I have met several people who assert the contrary. One, a foreman printer in the city, claims to have been an ardent rider in 1866, and another, a Dublin doctor, says he brought a bicycle from Paris to London in 1862! The first printed reference to such a machine is a drawing on page 147 of the *English Mechanic* for June 28, 1867, but this is merely a rude outline. One of the first complete drawings appeared in the *Field* for November 9, 1867. A bicycle maker I knew in Wolverhampton in 1878-'79 has the most tangible claim to have made a bicycle before this, and a document he sent me in a letter dated March, 1879, purports to be an account for material bought to build a bicycle. It is dated March, 1867. A dealer at Sheerness also claims to have built a bicycle in 1865. Even in 1868 the bicycle was almost unknown. The first ever seen in the North of England was ridden by a clown in a travelling circus. This I saw about Whitsuntide, 1868; its appearance in various towns created great wonder, and led, no doubt, to several imitations being constructed throughout the country, which fact accounts for a few traceable machines in that year. But until 1869 was well advanced they were nothing like common.

BEGINNINGS OF THE CYCLE TRADE.

So far anything done in the way of bicycle making was in a small patchwork sort of style. If all else is doubtful, the accurate commencement of the cycle industry in England in a large way can be definitely fixed with black and white proof. In 1868 there was at Cheylesmore, in Coventry, a firm known as the Coventry Sewing Machine Co. (Limited), carrying on the manufacture indicated by their title. The manager of the firm was Mr. Josiah Turner, still alive and

well, and its representative in Paris was his nephew, Rowley B. Turner. The latter was on a visit to Coventry toward the end of 1868, and, finding trade slack in sewing machines, proposed to his uncle that his company should take up the manufacture of bicycles on a large scale for the French market, there not being a paying demand in England. The matter was brought before the directors and favorably entertained. I was courteously shown the old minute books a few years ago, and a certified extract lies before me as I write this. In those days the articles of association of companies were not worded so elastically as at present, and so well did the farseeing directors think of the scheme that the company was reconstructed in order to carry out the new business, which actively commenced with an order for five hundred machines at £8 each under the title of the Coventry Machinists Co. (Limited).

FIFTY DOLLARS FIRST PRICE.

Even in 1869 the bicycle was looked on as a "French toy" incapable of serious use, and we find R. B. Turner, who is now, I believe, living in Brussels, together with George Spencer, a gymnast, now dead, who a month or two before had brought from Paris a bicycle, and J. Mayall, a scientific instrument maker, no longer living, on February 17, 1869, starting from Trafalgar Square to ride to Brighton. Mayall was the only one who succeeded in reaching his destination, and he took twelve or fourteen hours. Later on in that year Booth, a "champion skater," rode the distance in 9½ hours, which does not compare favorably with the present record for there and back, which is 5 hours 6 minutes 42 seconds. This ride caused a considerable sensation, and a few days later French bicycles began to be extensively advertised in English papers, the prices quoted being £10 for a 32-inch, or more for higher wheels, and many races took place, the first recorded amateur race being held at Salisbury on April 10, 1869. A regular furor soon set in.

"PHANTOM" THE FIRST REVOLUTIONIZER.

A great show and series of races were held in the Agricultural Hall, Islington, in May, and later on in that month (May 28, 1869) there was an exhibition and races at the Crystal Palace. At this appeared the first radical revolution in construction that led to great trade changes. Hitherto practically all machines were of wood and steel, but a cycle called the Phantom, with steel wire spokes, metal rims, rubber tires, and with iron and steel frame, appeared. Its rider easily defeated the cracks in the races held on the Upper Terrace, and it was greatly admired. This machine had double steering (i. e., both wheels steered), a fad, revived two or three times in later years, which never became popular, but the general design caught on, and gradually wood and iron gave way to all-metal frames, light spokes and rubber tires, and makers increased and multiplied.

Meanwhile the Coventry Machinists Co. continued to discharge its large order for

France, when another romance of the trade occurred. The Franco-German War broke out, and gave an unlooked for impetus to the sale of bicycles in England by making it impossible to carry out the French order, and the Coventry Machinists Co. successfully cultivated the home trade. Its originator, R. B. Turner, was one of the last to escape from Paris as the siege was closing in, and it is said that, mounted on one of his imported cycles, he ran the gantlet of Prussian guns.

THE ORIGINAL BOOM.

Thus was a new sport and trade born to the nation, but the beginning, though small, caused quite a "boom" in 1869 here, in America and in France, where even the belles of the boulevards were to be seen astride, without waiting for the "rational" costume of recent years. It is in this year that most of the "early" models belong. Country blacksmiths, carriage builders, mechanics and amateurs with a taste in that direction built bicycles, very often with only a drawing to go by, and sometimes, judging by some of the specimens which have survived, not even that much. In after years the origin of these productions was gradually set further and further back. Patents poured into the office, and, though most of the ideas embodied were wild schemes, it is interesting to note that several patents were taken out for what is now known as the "free wheel," and various systems of chain, band and rod driving were proposed; the nearest to modern ideas being a design (not patented) to drive the back wheel by an endless chain, which was invented by F. W. Shearing in 1869.

GROWTH OF THE FRONT WHEEL.

The lesson of the suspension wheeled Phantom had due effect, and the construction of the bicycle (tricycles were practically unknown) underwent great changes. The front wheel rapidly grew larger and the rear wheel smaller, until the height was only controlled by the rider's length of limb. Now, in the early seventies several firms took up the manufacture of machines seriously, and not merely as a branch trade. In many cases, notably that of Keen, of Surbiton, the finest rider of his time, crack athletes were also makers. Dan Rudge, of Wolverhampton, who introduced ball pedals and high finish in detail, is another case in point. Rudge died in 1880, but his name still survives. Looked at from a modern point of view, the trade, even in the middle seventies, when there were only six makers in Coventry, was small, and the total output of the entire country did not approach that of one of the great houses of to-day; there was not much change in this respect during the next five years.

Making Reamers Enlarge Themselves.

To make a tap or reamer cut larger than itself, put a piece of waste in one flute—enough to crowd it over and cut out on one side only. In large sizes (½-inch or over) put a strip of tin on one side and let it follow the tap through. You will be surprised at the result.

Packing for Export.

In preparing goods for export, shippers can hardly take too much pains with their packing. It is of the utmost importance that they reach their destination in good order, and no matter how well they have been manufactured all the work bestowed on them may be nullified solely through careless packing.

Especially is this true where bicycles are concerned. Finish goes a long way with them, and anything "off" about the nickel or enamel may prejudice them almost beyond repair.

Years ago, some English makers used to ship bicycles to this country in open crates. Consignments were received after being exposed to snow or rain, and with the machines themselves quite unprotected except by "slush" or vaseline daubed over the nickelled parts. To be sure, the nickel plating was usually good enough to successfully resist even this sort of usage, and no harm was done.

Nothing can be more annoying to a consignee than to receive goods in bad order. He can return them, of course. But such action would frequently cause him considerable inconvenience and delay, as well as put the consignor in a bad humor.

Two courses are left. One is to demand an allowance as the consideration for keeping the damaged goods, and the other is pocket the loss himself. This may be done in some cases where the damage is inconsiderable, or where there is a strong desire to avoid friction.

The best way, of course, is to so pack the goods that there will be no trouble.

The Retail Record.

Salem, Mass.—Cooper & Wing, closed for the season.

Lebanon, N. H.—Frank Cross bought out Labombard Bros.

Penn Yan, N. Y.—Wilkins & Ellis bought out Whitfield & McCormick.

Newton, Mass.—Fred. J. Read, Nonantum Square, closed for the season.

Kane, Pa.—The Kane Bicycle and Supply Co. has removed to the Temple Theatre Building.

Jamaica Plain, Mass.—Joseph H. Stock, a dealer at 709 Centre street, died last week of typhoid fever.

Tempering Liquid.

Water, 3 gallons; salt, 2 quarts; sal ammoniac and saltpetre, of each 2 ounces; ashes from white ash bark, 1 shovelful. The ashes cause the steel to scale white and smooth as silver. Do not hammer too cold. To avoid flaws, do not heat too high, which opens the pores of the steel. If heated carefully you will get hardness, toughness and the finest quality.

"Defects (in motorcycles) and How to Remedy Them." See "Motocycles and How to Manage Them." \$1. The Goodman Co., Box 640, New York. ***

RACING

In two record rides, morning and afternoon, at Vailsburg, October 8, Joseph Nelson captured all those amateur records he did not hold from two miles to the one hour inclusive, breaking the five mile world's amateur motor paced record by eight seconds. He covered the five miles in 7:45. The best previous time for the distance was 7:53, held by Smith. Nelson's time by miles is as follows: One mile, 1:28; two miles, 3:03 3-5; three miles, 4:36 1-5; four miles, 6:11 1-5; five miles, 7:45.

In the afternoon Nelson started for the hour, and was going at a thirty-six mile pace, when his pacing machine gave out. He fought unpaced for over a mile, and the motor he changed to had little speed, the men not being able to do better than a 1:46 gait. Finally the first machine was put in commission again, and it was here that Nelson showed his ability as a pace follower. Without losing so much as a second, he changed from one machine to the other, which, after a slow lap, began to increase its speed. From the thirty-second mile to the finish the average time was a fraction over 1:38, and when the hour was up Nelson had travelled just 35 miles 1,055 yards, lowering the best previous attempt, made by Ray Duer, of 34 miles 100 yards. Nelson's time by miles follows:

1	.....	1:39 3-5	19	.....	31:24 4-5
2	.....	3:18 1-5	20	.....	33:05 1-5
3	.....	4:58 3-5	21	.....	34:45 4-5
4	.....	6:38	22	.....	36:26 1-5
5	.....	8:16 1-5	23	.....	38:07 3-5
6	.....	9:54 2-5	24	.....	39:46 4-5
7	.....	11:32 4-5	25	.....	41:27
8	.....	13:11 3-5	26	.....	43:07 4-5
9	.....	14:50 3-5	27	.....	44:48 1-5
10	.....	16:29 2-5	28	.....	46:28 2-5
11	.....	18:08 1-5	29	.....	48:21 4-5
12	.....	19:47 4-5	30	.....	50:23 3-5
13	.....	21:26	31	.....	52:05
14	.....	23:04 1-5	32	.....	53:48
15	.....	24:43 2-5	33	.....	55:32 4-5
16	.....	26:23 4-5	34	.....	57:19 1-5
17	.....	28:04	35 miles	1,055	
18	.....	29:44 1-5	yards	.....	1 hour

The same afternoon Albert Champion on his motor bicycle clipped two-fifths of a second off the best previous record, held by himself; he did the mile in 1:14 3-5.

A. A. Chase, of London, has set a new mark for fifty miles. His time was 1 hour 17 minutes 44 seconds. The best previous time was that of Bonbours, the Frenchman, who on August 7, 1899, rode fifty miles in 1:27:16 3-5. Chase therefore cut 9 minutes 32 3-5 seconds off the record. This really wonderful performance was made at the Crystal Palace, London, on September 24. It was, of course, done behind motor pacing. Chase covered his first mile in 1:33, five miles in 7:42 1-5, and was 16 2-5 seconds inside the record at six miles, which distance he covered in 9:11 1-5. From that point to the end Chase put all previous records in the shade, and would have done better but for a couple of changes of machines.

Tom Cooper left Detroit last night for Denver, where he will immediately proceed to learn the business of coal mining, and will quit the track and in future devote his whole time to the business. He goes to take entire charge of a mine situated at Ouray, Col., owned by Holmes Bros.

Reports from Paris state that Michael has decided to give up cycling and again become a jockey. Tod Sloan is to take him under his wing. The report, however, should be well salted before being taken.

W. S. Fenn, the National crack, is ill at his home with symptoms of appendicitis. He has been ordered to quit racing for several months.

Points out Improvements.

How can the motor bicycle be improved? What steps should be taken to arrive at this much-to-be-desired end?

An English writer has tackled the question, and as a result of much lucubration he has drawn up a list of the things needed. The list foots up to just a round dozen, and is as follows:

First—The question of tires should first receive consideration. What we need is larger and stronger covers, with self-sealing tubes.

Second—We need a holder that is light and rigid permanently fixed to the bicycle; should anything then go wrong, the cycle would be properly supported during repairs.

Third—A more secure fastening of the front wheel axle to the blades of the fork; slotted ends are useful, but dangerous, as the constant vibration tends to loosen the nuts, and the washers getting displaced allow the wheel to part.

Fourth—Upturned handle bars, with handles that will minimize the present vibration. The reason I prefer upturned bars is that an upright position is most comfortable, and if you are to get that with a flat or turndown bar the stem has to be drawn from the head to such a length that it becomes unsafe.

Fifth—A powerful band brake, applied by hand and foot.

Sixth—A better system of lubrication.

Seventh—A covering of mica or other suitable material to all working parts.

Eighth—A longer and wider saddle, preferably pneumatic, with a leather top or casing.

Ninth—Extra wide mud guards, so made that the back one may be used as a spare tank.

Tenth—Duplicate shut-off lever.

Eleventh—Lock nuts or pins to all moving parts.

Twelfth—A useful outfit of tools and spare parts for a long journey.

Tempering Liquid.

Salt, $\frac{1}{2}$ teacupful; saltpetre, $\frac{1}{2}$ ounce; pulverized alum, 1 teaspoonful; soft water, 1 gallon. Never heat over a cherry red, nor draw any temper.

Brazing Progress.

As a result of the march of progress, brazing by gas has entirely superseded the old-fashioned way that was formerly almost universally used by repairers. Reference is had to the blacksmith's forge.

In the old days there was scarcely a repairer of any standing who did not have over in some corner of his shop a small portable forge, with bellows, smokepipe, etc. Whenever he had a job of welding or brazing to do the fire was kindled in the forge and a few minutes' work at the bellows blew the soft coal into a red heat. Into this was put the article to be operated on and heated to the desired temperature.

Very good jobs were done in the old forges, too. The work was not as clean as that which comes from the gas forges now, but with that exception there was little to choose between the two ways. Even with the part enveloped in the hot coals and almost hid from sight, the work was easily kept track of. When the brass began to flow there was always a change in the color of the flame, and any one with half an eye could tell when the crucial moment had come. Then the workman would pick the part up with his tongs and inspect it critically to see if the joining was perfect.

Nowadays, however, even the smallest shop has a brazing forge operated by gas or oil, usually the former. When brazing is to be done it is only necessary to turn on the gas, put a match to it, arrange the firebricks and the flame, and wait for the right heat to come. It is easier and simpler, but not half so realistic.

To Clean and Sharpen Files.

To clean files, an authority recommends that they be held for a minute in a steam current with a pressure of 40 pounds per square inch. The file will then be absolutely clean and look like new. To sharpen or cut the file, it is advisable to hold it in an acid bath, consisting of seven parts of water, three parts sulphuric acid and one part nitric acid, after which a clear water and milk-of-lime bath clears them. Brush the file then with a mixture of olive and turpentine oil and afterward with fine pulverized coke.

Medals on This Tire.

As Manager Kelley puts it, "No one can say there are no medals on the Pennsylvania tires." The gold medal awarded by the Pan-American Exposition to the Pennsylvania Rubber Co.'s products is, of course, the particular medal he has in mind, and very properly they are proud of it. As it was the only award of the sort, its value is the greater.

Preventing Rust on Tools.

To prevent rust on tools use vaseline, to which a small amount of powdered gum camphor has been added; heat together over a slow fire.

To Fix Stripped Threads.

A job which often taxes the repairer's patience and ingenuity is a stripped pedal pin or stripped thread in the crank pin, causing the pedal to constantly work loose and fall out, says a practical writer.

"I have seen all sorts of patched up jobs made of this repair, and often the workman falls back on the very unmechanical method of brazing the pedal pin into the crank, a procedure which cannot be recommended, as it invariably causes softness and consequent wearing of the pedal cone, as well as destroying the appearance by burning of the nickel, a state of affairs generally much resented by the customer, especially if he takes a pride in the appearance of his machine.

"A method of tackling the job which generally results in a successful repair is as follows: Take a tap to fit the crank end and tap it out larger by means of packing, making it about one-sixteenth larger than it was originally. Use a taper tap, and put it through the back of the crank, insuring that the resultant tapped hole shall be tapered, the largest diameter being at the back of the crank.

"Now take about two inches of Bessemer steel and turn it down and screw thread with a slight taper on it until it will screw tightly into the crank from the back end, coming through nearly flush with the front. This may be best done in a three jaw chuck. Remove chuck from the lathe mandrel nose, and without removing the piece from the chuck. Now chuck the pedal spindle between lathe centres and turn down the screwed end until all the thread is removed, and thread it to match any taps which you may have of the same diameter. When threaded it should have a slight taper, being smaller at its end than at the shoulder.

"Now replace the chuck on the lathe mandrel nose, and drill down from the front of the screwed Bessemer stud, previously prepared, for about one inch. Now bore this out, tapered smaller at the back than in front, and tap it with the tap to which the pedal spindle was screwed. Now take a saw and saw down parallel with its axis for about 1½ inches, making the saw cut come through from the outside into the bore, but not right across the stud. Now screw the crank onto it until the small end of the now hollow stud is nearly flush with the face of the crank. Now screw the pedal spindle into place and cut off the stud level with the back of the crank with a back saw.

"You will thus have made a self-locking expanding bush, and you need never fear of your pedal pin working loose. Although this way may seem a long job, it is a workman-like one, and will result in a really satisfactory repair, which will give the pedal and crank its former appearance and strength.

"The finer the threads the better, within reason, say, not finer than twenty to the inch. The tapering of the pedal pin and the screwed bush insures a perfectly tight fit,

the saw cut allowing the pedal pin to tighten the bush within the crank end. This plan may be adopted with either closed or split crank ends; in the case of the latter, of course, the set pin should be screwed up tight before tapping operations commence."

The Week's Exports.

Following the heavy shipments of the preceding week, last week's exports were as a calm after a storm. Only Great Britain, the British West Indies, Holland and Germany made purchases valued at more than \$1,000, Great Britain's only touching the \$2,000 mark. The record in detail, the week closing October 8, follows:

Antwerp—7 cases bicycle material, \$200.

British Possessions in Africa—1 case bicycles, \$53.

British East Indies—15 cases bicycles and material, \$908.

British Australia—3 cases bicycles and parts, \$60.

British West Indies—86 cases bicycles and material, \$1,769.

Chili—2 cases bicycles and material, \$41.

Cuba—15 cases bicycles and material, \$523.

Copenhagen—22 cases bicycle material, \$887.

Glasgow—10 cases bicycles, \$323; 1 case bicycle material, \$110.

Havre—16 cases bicycles, \$305; 12 cases bicycle material, \$545.

Hamburg—6 cases bicycles, \$194; 14 cases bicycle material, \$930.

Liverpool—28 cases bicycles, \$975; 3 cases bicycle material, \$471.

London—4 cases bicycles, \$100; 12 cases bicycle material, \$560.

Malta—2 cases bicycles, \$239.

Rotterdam—24 cases bicycles, \$886; 11 cases bicycle material, \$350.

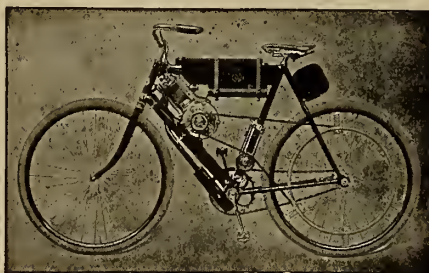
Southampton—1 case bicycles, \$15.

Trieste—4 cases bicycles, \$125; 2 cases bicycle material, \$230.

U. S. of Colombia—1 case bicycles, \$13.

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and all other



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are not included in the outline, there's something faulty with it. We'll be ready to do our part toward setting it right. Bevin goods have earned the right to be on every shelf, in every show window and in every catalog.

Bevin Bros. Mfg. Co.,

East Hampton, Mass.

Business Established in 1832.

The Week's Patents.

684,001. Bicycle Pump. De Wane B. Smith, Deerfield, N. Y. Filed April 27, 1899. Serial No. 714,637. (No model.)

Claim.—1. The combination with a bicycle pump having a foot or stirrup of a movable tubular tire connection having a downwardly turned end and an elastic bushing or packing therein adapted to engage the valve nipple of the tire and a yielding support for the tubular connection, substantially as set forth.

683,053. Cycle Brake. Clement Ford, Axminster, England. Filed May 21, 1901. Serial No. 61,218. (No model.)

Claim.—1. In a cycle brake, the combination of a support detachably connected with the saddle pin and adjustable horizontally relatively thereto, an arm dependent from and vertically adjustable in said support, a lever actuated by a backward movement of the rider's body fulcrumed at the lower end of said arm, and an adjustable connection between the lever and the brake, substantially as described.

684,108. Process of Lining Pneumatic Tires. Joseph Savoie, Central Falls, R. I. Filed May 29, 1901. Serial No. 62,447. (No specimens.)

Claim.—1. The herein described process of lining pneumatic tires, consisting in first collapsing the tire to empty it of air, introducing into the tire at its lowest point fluid solution of caoutchouc or other equivalent substance, in sufficient quantity to form a mass substantially filling the tire at the point at which it is introduced, introducing air into the mass of fluid to form a bubble therein, and distributing the fluid in a film throughout the interior of the tire, and simultaneously expanding the tire by introducing air into the bubble; substantially as described.

684,123. Wheel. George H. Spafford, Baltimore, Md. Filed April 27, 1901. Serial No. 57,701. (No model.)

Claim.—1. The combination with an axle or shaft provided with a bearing collar, of a wheel mounted thereon and provided in its hub with a chamber surrounding said bearing collar; and an oil box secured within said hub and provided at its circumference with a series of oil compartments surrounding said bearing collar and each compartment having a single or continuous oil chamber extending from one side of the bearing collar to the other side and provided with an oil inlet near the circumference of the oil box, and an oil outlet at its inner portion of relatively less area than the said oil inlet.

684,328. Unicycle. Daniel F. Watson, Oronogo, Mo. Filed Jan. 28, 1901. Serial No. 45,083. (No model.)

Claim.—1. A unicycle comprising a grooved wheel, a frame consisting of a yoke mounted on the wheel and having diverging arms extending beneath the wheel, and weights secured to the arms.

2. A unicycle comprising a frame consisting of a yoke having diverging arms, and a fork secured to said yoke; a crank axle supported in bearings of the frame; pedals on said axle; a grooved wheel mounted on the axle; weights secured to the diverging arms; a seat carried by said yoke; and a handle bar arranged upon said fork.

684,350. Spring for Bicycle Saddles. William I. Bunker, La Grange, Ill. Filed March 13, 1899. Serial No. 708,907. (No model.)

Claim.—1. In a bicycle saddle, a spring bent at its middle to form a loop, and comprising two limbs extending in a horizontal plane, approximately parallel with each other, and each bent to form vertical elastic coils between the front and rear portions of the saddle, substantially as described.

The Difference Between This Saddle



and most of the others is the difference between work "farmed out" and work performed by one's self.

The Oak Saddle, and each and every part of it, is made by ourselves on our premises. We do not trust to others. We do not "shop around" for this part and the other one, and buy whichever is cheapest, and then "assemble" such purchases and stamp the product with our name.

We have our special machines and processes for each operation. We are able, therefore, to manufacture not only well but economically.

The result is shown in our saddle and in the quotations we are able to name.

THE MAN WHO BUYS

saddles without affording us a chance to submit goods and prices is not doing justice either to himself or to those who rate him a wise buyer.

The Oak is a high-grade saddle for use on high-grade bicycles. There is nothing half so good at anywhere near its price. If it was possible to make anything better we would be making it.

The Oak is light, it is strong, it is guaranteed not to stretch or sag. It is a saddle that improves with use. As improved for 1902, it is the pinnacle of saddle perfection—it is justly the king of saddles.

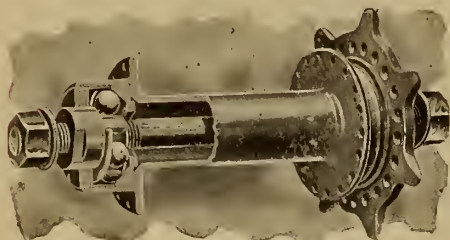
We believe we can demonstrate our assertions, if you will accord us the opportunity.

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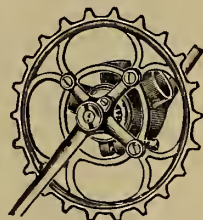
Morse Chain Co., Trumansburg, N. Y.

Uncle Sam's Rust-Removers.

The rust removers prescribed by the
United States artillery directions are as fol-
lows:

"Cyanide of potash is most excellent for
removing rust and should be made much use
of. Instruments of polished steel may be
cleaned as follows: First, soak, if possible,
in a solution of cyanide of potassium in the
proportion of one ounce of cyanide to four
ounces of water. Allow this to act until all
loose rust is removed, and then polish with
cyanide soap. The cyanide soap referred to
is made as follows: Potassium cyanide, pre-
cipitated chalk, white castile soap. Make a
saturated solution of the cyanide and add
chalk sufficient to make a creamy paste. Add
the soap, cut in fine shavings, and
thoroughly incorporate in a mortar. When
the mixture is stiff cease to add soap. It
may be well to state that potassium cyanide
is a violent poison.

"For removing rust from iron the follow-
ing is given: Iron may be quickly and easily
cleaned by dipping in or washing with nitric
acid one part, muriatic acid one part and
water twelve parts. After using wash with
clean water."



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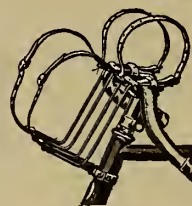
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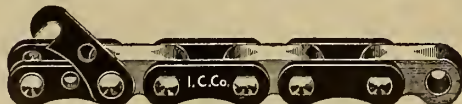
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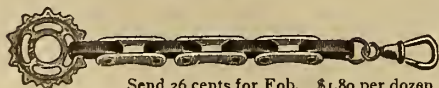
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for the purpose. Write us.

The Motor Cycle Mfg. Co., Brockton, Mass.

The Bicycling World

AND MOTOCYCLE REVIEW.

In which is incorporated "The Wheel and Cycling Trade Review" and the "American Cyclist."

Volume XLIV.

New York, U. S. A., Thursday, October 24, 1901.

No. 4

LOPS OFF BRANCHES

A. B. C. Completes its Pruning—Stores That Survive—One New One Opened.

Warren street, New York, will scarcely know itself after the 1st proximo.

On that date the order wiping out all but one of the American Bicycle Co.'s branches on that street will go into effect. It means the disappearance of several stores that have been almost in the nature of cycling landmarks.

The stores to be closed are the Crescent, Monarch and Featherstone branches. The one that will remain is the Columbia branch, at No. 12, where it has been for nigh on to twenty years, under the management of Elliott Mason, who will continue in charge. It will be the only A. B. C. in New York to survive, the Rambler uptown branch at Eighth avenue and Fifty-sixth street being also slated for discontinuance. The only A. B. C. store in Brooklyn, that on Flatbush avenue, will be likewise abandoned.

The business of these stores will be concentrated in the newly organized Eastern Sales Department, under Charles E. Walker, which will locate at Nos. 152 and 154 Franklin street. The lease of the building, a six story structure, has just been signed. The jobbing, foreign and sudry departments will be removed to this address from headquarters in the Park Row building. Only the executive offices and the bookkeeping department will be retained there.

The other branches to be closed are the Rambler branches in Philadelphia and Buffalo, the Lozier branch in Cleveland and the Columbia in San Francisco, the latter of which will be absorbed by the Pacific sales department.

The stores that will be continued are the Columbia in Providence, R. I., the Lozier branch in Philadelphia, and the Washington, D. C., branch. The fate of the Pope branch in Boston is still in the balance.

When this will have been decided the shakeup will be completed.

O. L. Millard, of Millard Bros., London, and J. McKenzie, of McKenzie & Co., same place, are among the foreign buyers in town.

Olive in Trouble.

The Olive Wheel Co., Syracuse, N. Y., is in financial distress. While the condition has been so well foreshadowed as to cause small surprise to those "in the know," President Gridley has finally made acknowledgment of the fact.

"The company," he says, "has been working long under disadvantages, and is in hard luck. Heretofore, it has been able to borrow for its needs of friends of the company. That source is now cut off and owing to the pressure the company has to admit that it is insolvent, and must be forced into bankruptcy unless the general creditors will accept the compromise offered, i. e., 25 per cent to the general creditors, provided that they will unanimously accept the proposition."

Mr. Gridley states that the condition of the company is substantially as follows: Indebtedness to local creditors, friends of the company, for moneys loaned without any security, at least..... \$113,358 00 Other indebtedness, bills and accounts payable to general merchandise creditors 5,737 29 Assets of company as per last inventory and present estimate.. 50,229 17

The assets consist of machinery, tools, unfinished stock, bicycles in course of construction and parts of bicycles.

Several judgments already hang over the concern.

For Standard Threads.

There appears to be a prospect of real progress being made in the direction of the standardization of screw threads, at least so far as those used in cycle construction are concerned.

At a recent meeting of the council of the (British) Cycle Engineers' Institute, the report of a committee appointed to go into this matter was presented. The council resolved to accept this, and from the general tone of the meeting found it acceptable as it stood.

One Suit Settled.

The suit of the American Bicycle Co. vs. the Wisconsin Wheel Works for infringement of the Smith bottom bracket patent has been discontinued. Both parties in interest have reached an agreement out of court.

FIXED GEARS GO

Four Big British Makers Adopt the "Free Wheel" Bicycle as Standard Model.

While names are not mentioned, it is given out on "the other side" that at least four of the leading British manufacturers have elected to make "free wheels," i. e., bicycles fitted with coaster-brakes, their standard models for 1902—a move that implies almost a semi-revolution of the trade.

What is as interesting, it is added, is that no extra charge will be made for the new equipment, which includes not only free wheels, but two hand applied brakes; they go in heavily for brakes "over there," you know.

Formal announcement of these facts is being withheld only until the opening of the cycle shows next month.

The identity of the manufacturers is not wholly disclosed, but enough is said to make plain that Rudge-Whitworth—the largest in England—is one of them.

"Fixed wheels" will not be catalogued except at the same price as "free wheels"; "fixed wheels to order" will be the usual announcement.

Rover is all Right.

Reports of English cycle firms now coming in give support to the belief that the worst of the "slump" is really over in King Edward's domains. The Rover Cycle Co. show a profit of just under \$50,000, out of which a dividend of 5 per cent is paid and \$12,500 added to the reserve fund, which now reaches \$60,000. A slight improvement all around is shown over last year.

Breaks Away From Monopoly.

Rudge-Whitworth, the largest and generally considered the most progressive of British manufacturers, has broken away from the Dunlop monopoly. It is given out that their 1902 product will be shod with the Clincher tire.

The Norwegian Government at Christiania is inviting tenders for 100 bicycles for use in the imperial army; they must be submitted on or before November. 20.

LOCKING HORNS!

Flight Between Dunlop and Clincher Interests for British Tire Trade Grows Keen.

In its announced determination to account for 95 per cent of the British tire trade during 1902 the Dunlop Co. is making material progress. At the same time the opposition to the big concern is becoming more clearly defined, and the lines of battle are being sharply drawn.

Receding from its former position of "Dunlop or nothing," the big tire company has displayed an unusual amount of astuteness even for it, in shaping its campaign for the coming season.

Its policy has been broadened. Instead of being restricted to Dunlop tires and three or four others manufactured by friendly licensees, the makers who wish to maintain cordial relations with the Dunlop Co. are now given a better opportunity to do so. The hostile tire concerns—those bearing Dunlop licenses, but having more regard for their own interests than for those of the parent company—have been pacified. Presumably this has been accomplished by an acquirement by the Dunlop Co. of an interest in the licensee company, in consequence of which their paths will henceforth be the same.

The result is that the Dunlop Co. now has eight licensee companies working in harmony with it and bound by fixed prices—these, of course, being considerably lower than the figures at which the genuine Dunlop tires are sold. From these eight concerns makers can buy their supply of tires at will, each purchase being placed to their credit and aiding them to secure a rebate on the season's business.

Outside of the breastworks is found one concern—a big one, to wit, the North British Rubber Co. It has a trump card in its Clincher tire, and being unhampered in the matter of price, it is playing it for all it is worth. The deal with the Rudge-Whitworth Co. for the latter's entire 1902 output, mentioned elsewhere, is the first fruit of the new, aggressive policy of the Scotch concern.

With such a formidable competitor as the North British Rubber Co. in the field, the Dunlop Co.'s 95 per cent of the tire business is by no means assured. But it is quite plain that it is going to leave no stone unturned to accomplish its avowed object.

Wanted Tax Reduced.

To an assessor who endeavored to collect from a cyclist at Saco, Me., a \$2 tax on his bicycle, the rider asserted that the best offer he could obtain for the machine if he wished to sell it was \$2. This being so, he thought the tax should be scaled down. The story does not relate whether this piteous appeal was successful.

What is a Jobber?

At the recent annual meeting of the National Hardware Association that vexed and oft-asked question, What is a jobber? was brought up for discussion.

"Is a jobber the merchant who has two travellers, or three, or can any one be rated a jobber who has no travellers?" is the form in which the question was put.

T. J. Fernley, to whom the president delegated the task of framing the reply, defined the jobber in this wise:

"The jobber is the proper distributor of goods because of the fact that he employs a corps of travelling salesmen to do for the manufacturer what the manufacturer does not do for himself, but in determining who a jobber is we must have before us constantly the line of goods that are being treated of. A concern might be entitled to the jobbing prices on one line of goods, but not on other lines, not being engaged in that particular branch or carrying the stock. We ask that a differential be provided for all jobbers regardless of size. We are opposed to quantity discounts, believing that is a matter that will work out itself. We do not close the door against a smart buyer, neither do we open the door to him. The buying and selling has nothing to do with the work of this association."

Something new in Gas Lamps.

An English firm has brought out an acetylene gas lamp which contains some novel features. It is charged with a special preparation of carbide called acetylithe, which is manufactured by a special process which insures regular consumption, and regular production of acetylene gas.

Only the portions of the acetylithe which are in actual contact with the water give out gas, and when a sufficient quantity of gas has been generated to fill the gas chamber, the pressure of the gas automatically forces back the water away from the acetylithe, and no more gas can be generated until some of the gas already in the gas chamber has been drawn off or consumed. This releases the pressure on the water, which then rises and again attacks the acetylithe, which process keeps on repeating itself automatically as the gas is generated and consumed.

The advantage of this is that the partly consumed charge can be left in the generator for days at a time and will not waste, but, like oil in the ordinary lamp, is always ready for use when wanted.

His Only Asset.

A story of "hopes dashed to earth" is told by a bankruptcy petition filed in New York this week. The bankrupt in swearing off debts of \$21,000 affirms that his only asset is a patent on a bicycle coat and trousers which is now of no value.

The Birmingham Small Arms Co.—England's big parts concern—is bringing out a set of motor bicycle fittings for the 1902 trade.

DEFENDING FRAUD

To Make Defense Stronger the Defender Insults the Reputable New York Trade.

The malodorous and so-called Manhattan "Storage" Co. has finally found an apologist and defender. As might have been expected, the so-called Cycling Gazette assumes the role. Last month this journalistic conjurer cribbed and printed as "special correspondence" a portion of the Bicycling World's exposure of the concern. This month it "eats crow" in abject fashion.

It claims to have taken "special pains to investigate the methods of the Manhattan 'Storage' Co., and finds that it intends to do business on a basis of permanency, according to a system of making sales which is calculated to bring down the prices." This labored apology not being enough, the apologist insults the reputable New York trade by adding that this "system" and "petty jealousy" have "caused a great amount of dissatisfaction and envy among the older and more conservative dealers who previously controlled the field before the entrance of this hustling firm."

The "system" referred to, as the Bicycling World stated after an investigation of the methods of the "hustling concern," consists in advertising at cut-throat prices "high grade bicycle seized (in their imagination) for storage charges." The bicycles proved to be cheap and obsolete job lots, the makers of which had failed and gone out of business; the "hustling concern" was nevertheless offering purchasers the "manufacturers' guarantee for a year."

The Manhattan "Storage" Co. is also the same whose rating by the commercial agencies recently and suddenly underwent a startling transformation.

Journalism has sunk low, indeed, when such men and methods can find defenders and reputable merchants be accused of being envious or jealous of such ilk.

Campbell is Coming.

S. A. Campbell, chief traveler of the Bar-west Coaster Brake Co., leaves this week on his initial tour in the interests of the brake with the "irresistible combination." He will visit all the principal points between Albany and Denver.

Starr Buys in.

F. W. Starr, for fourteen years identified with the Columbia interests in Hartford, has purchased an interest in the Connecticut Rubber Co., of that city. His long experience should accrue to the advantage of the company.

Consolidating in Canada.

The store of the National Cycle and Automobile Co., at St. John, N. B., will be closed and the business combined with that of the Canada Cycle and Motor Co. and carried on at the store of the latter concern.

DOUBTED THEM ALL

How the Trade Received all Important Innovations—Some now Curious and Interesting History Recalled by Motor Bicycle Situation.

Although the motor bicycle has made and is making substantial headway, the doubters are still sufficiently numerous to be both heard and felt. Many of these sceptics are in high places, and are ripe in experience. The lessons of the past, however, appear to have lost their effect on them. They shake their heads or wave away the motor bicycle as if it was something to be avoided or unworthy of consideration.

In some cases this attitude is easily understood; in others it is beyond understanding. To some it may prove discouraging; to others—those with more retentive memories—it is an attitude that was not unanticipated; it is in line with the history of the trade. No substantial or far-reaching innovation was ever received with open arms; indeed, all were doubted long and persistently, and won out only when there was no longer room for doubting.

RECEPTION ACCORDED THE SAFETY.

Even before the safety bicycle reached these shores the very idea of it was greeted with derision.

"Who's going to ride such a thing as that?" is the remark attributed to cyclists in general by the prints of those times.

The sentiment of the day was so strongly against the newcomer that the *Bicycling World* in February, 1885, protested that it was "too soon to dismiss these safeties in such a summary manner." It was admitted, however, that there was "danger of this safety business being overdone," but the paper considered that it should be given a fair chance.

In December of the same year Julius Wilcox prophesied that "the geared dwarf" was "merely having a day out"; that the idea of riders seating themselves on a bicycle having such small wheels was ridiculous; the vibration, he asserted, would make "vertebrated jelly" of all who rode them. He pointed out that safeties were neither new nor novel, and pointed to the original bone-shakers to support him.

CALLED THEM COWARDS.

When the American manufacturers were finally compelled to take up the "goat," as it was dubbed, the feeling against the "small safety mania," if anything, increased in intensity. When the Pope Mfg. Co. had sold 300 of them they considered the fact of sufficient importance to advertise it. But the doubt and prejudice continued. Trade and clubs were alike rent by discussions of the subject. It was made an issue in club elections, some of the organizations holding that it was belittling and demeaning to be led by officers riding the despised "dwarfs";

"coward" and "old woman" were not infrequently the terms applied to them.

As late as 1889, when the "dwarf" had made substantial headway, Luther H. Porter, who wrote "Cycling for Health and Pleasure," asserted that it was "idle to contend that the safety ran as easily as the ordinary"; "once started," he wrote, "the latter runs itself; the safety always needs pushing." He went further, and expressed what he termed the "stampede" to the safety, "a condition which there is no reason to suppose will become permanent"; he believed the high wheel would "regain much of the favor it has temporarily lost."

THE ORDINARY DIED HARD.

In 1890, when the turn of the tide had set unmistakably toward the safety, a writer in the *Chicago Referee* described those who rode high wheels as "chumps." "I pray God to preserve me from the d— f—s who still ride them," he added. This brought out a warm reply in the *Bicycling World* from "Ordinary," who spoke of the Westerner's "shallowness of mind," and who gave it as his opinion that the reason the Chicagoan decried the high wheel was because he "lacked the requisite nerve to ride one, fearing to break his worthless neck."

This is but an illustration of the bitterness of the feeling that existed. Taken with the following extract from the *Wheel* of August 18, 1891, it serves to show that the ordinary died hard: "A New York dealer informs us that three men have placed their safeties on sale in his place and gone back to the ordinary. Surely these are stormy times, with solids, cushions and pneumatics, with ordinaries, safeties, rationals and geared ordinaries."

BALL BEARINGS DECLARED UNNECESSARY

Even ball bearings did not escape opposition. "A mistake and needless expense," they were termed by one writer of the time, who brought mathematics to bear him out. When the *Bicycling World* took him to task he pointed to "the failure of such bearings on car axles forty years before."

PNEUMATIC TIRES RIDICULED.

The pneumatic tire created even more derision, and fairly split the trade into two camps, the by far weaker one favoring the new tire. For a year or more the majority would have none of it. They laughed it to scorn. "Balloon tire," "sausage tire," "road rollers," "bags" and other equally pleasing terms were applied to it.

After it first appeared on the track, in August, 1890, and swept all before it, it was barred by many race promoters, causing the *Bicycling World* of September 5, 1890, to remark prophetically: "The action of Anthony Comstock in placing his ban on a certain book because of its supposed immorality insures a tremendous sale for that particular book. We wonder if the action of the English racing authorities and the Peoria club in barring or handicapping the air tire will not have a similar effect on the demand for pneumatics."

The *Wheel* believed that pneumatics would

be "the racepath wheels of 1891," and while expressing belief in the "hollow tire idea" favored cushions, "which neither puncture, soften nor burst, like pneumatics."

FAD OR FASHION, SAID POPE.

Generally speaking, the trade was inclining toward cushion tires, considering pneumatics impractical for road use. In October, 1890, the Pope Mfg. Co. was far from convinced, and made this covert strike at all the new tires: "Every rubber tire is a cushion, and in a certain way the term 'cushion tires' lately used so much is a misnomer. There is no charm in the name, except to catch the ear of the unthinking. But the thing, a round rubber tire with a concentric hole through it, or a rubber tire of any other shape, partly hollow for freer compressibility or less weight, is no novelty except in the sense of a fad or a fashion."

Again, one of its ads., which at the time used the personal pronoun, returned to the subject in this wise: "Every now and then something extreme sets people to sputtering. Some quick and successful spurt starts some people pell mell in a direction. Or it makes them object. I can't do justice to that subject now—but did you notice that amid the objections to the 'pneumatic' two inch inflated bag, which runs over a soft track better than a half inch rubber wire does, nobody seems to formulate the idea clearly that it is a different instrument?"

OVERMAN DOUBTED PERMANENCY.

None of the "Big Three" of those days—Pope, Overman and Gormully & Jeffery—would accept the air tire; all pinned their faith to cushions. Overman in January, 1891, remarking publicly that "it is a problem as to whether or not pneumatic tires will ever be of permanent value."

Just before that date the *Bicycling World* canvassed the trade on the subject, and found that "80 per cent of the replies ranged from conservative non-committal to absolute distrust in what some of them call a fad; the other 20 per cent are more hopeful."

VIEWS OF THE MAKERS.

At this time it must be understood that pneumatics were not generally considered; the replies referred to applied to cushions, in which faith was none too strong, as these opinions attest:

"Manufacturers are frequently compelled to adopt methods that do not meet with their approval; they do so to satisfy a demand. Our opinion is that the cushion tire will come under this head."

"We have had calls for cushion tires, but do not look upon this as in any way owing to the merit of the tire, but simply to the extensive advertising and articles written in its favor, and the natural tendency of some riders to want every new thing that comes out."

"I have talked freely with makers and dealers, and they express frankly their dread of this popular whim."

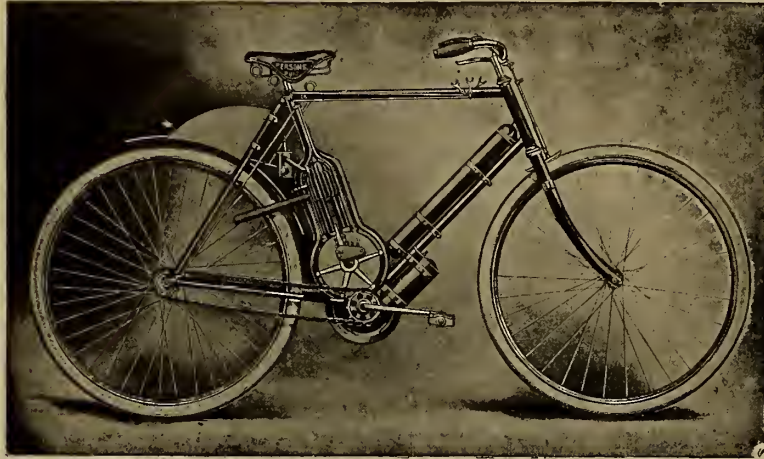
In England, where the air tire obtained its

(Continued on page 77.)

When ♣ the Flowers ♣ That Bloom ♣ in the Spring ♣

(Please observe the exhibits that adorn this ad)

begin to bud there are a lot of dealers who will make a mad rush to secure the Royal agency. They are putting off until to-morrow what they should do to-day; many are doomed to disappointment; they will discover that "delays are dangerous" and that they are everlastingly too late. As we have said before, the time to obtain the Royal agency is now. There will be no winter of discontent for the dealer who has it. The Royal will give him something to show during the dull months—something to talk about—something to demonstrate—something that will attract people to his store—something that will arouse interest that will blossom into sales when Spring begins to bud. There's not another article in the cycle trade that affords half so much room for winter work or that holds even one-half the promise.



ROYAL MOTOR WORKS, CHICOPEE FALLS, MASS.

Fisk Tires

are not simply good, but are good for something—good in service.

They run lightly, wear well and stand up under all reasonable tests. Every dealer who is not working for to-day alone ought to sell Fisk Tires.

They help to build up trade, and what is more, they keep it.

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DETROIT: CHICAGO, 54 State St.; SAN FRANCISCO, The Phil B. Bekeart
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105 Reade St., NEW YORK, N. Y.; 168 Oliver St., BOSTON, MASS.;
1015 Arch St., PHILADELPHIA, PA.

FISK RUBBER COMPANY

CHICOPEE FALLS, MASS.

THE BICYCLING WORLD

FOUNDED 1877
and MOTORCYCLE REVIEW

In which is Incorporated
"The Wheel" and the "American Cyclist."

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General Agents: The American News Co., New York City and its branches.

Change of advertisements is not guaranteed unless copy therefor is in hand on SATURDAY preceding the date of publication.

Members of the trade are invited and are at all times welcome to make our office their headquarters while in New York; our facilities and information will be at their command.

To Facilitate Matters Our Patrons Should
Address us at P. O. Box 649.

NEW YORK, OCTOBER 24, 1901.

Coaster-Brakes as Standard.

Not since the pneumatic tire obtained universal adoption has any move been made that borders so closely on the revolutionary as the action of four large and reputable English manufacturers in adopting the "free wheel" bicycle as their standard model for 1902, as is detailed in another column.

The effect of the action is not to be minimized or gainsaid. Its influence is certain to be felt in this country. It will give the American trade something to think about, if, indeed, it does not assist some of our manufacturers in reaching a similar decision.

Without knowledge of what was brewing abroad, the Bicycling World in its issue of September 5 suggested that the time was approaching when some enterprising cycle maker would make the very move, i. e., adopt coaster brakes as his standard equipment, and now that the Britons have unexpectedly taken the initiative, it is up to the American trade to don its thinking cap.

To relegate the fixed gear to the rear, to shelve it as an "option," is a bold stroke

that is not to be lightly considered. Cons as well as pros enter into the argument, but the fact that one of the four English concerns that have taken the plunge is the largest and most popular in the Kingdom, demonstrates the great strength of the pros. Such a concern would not recklessly burn the bridge behind it.

The contention that the coaster brake is on a plane with the pneumatic tire—that it adds as much to the cyclist's pleasure and more to his personal safety is full of substance. It is open to argument, of course, but we believe the greatest weight is on the side of the coaster brake. Whether the retail trade and cycling public is generally ready to accept this view is a pretty question, but one which any manufacturer can probe and settle by inquiry of his own agents. But even if now settled in the negative it is our firm opinion that the near future will see the decision reversed and see the triumph of the coaster brake model.

That there exists an immediate opportunity for some one or two American makers to make the move and to adopt the "coaster brake" as his battle cry is apparent; if sounded loudly and often we believe the cry will win out and that another year will see the coaster brake in a fair way of universal use.

Punctures and Tire Improvement.

Makers of pneumatic tire repair outfits know, if no one else does, how the use of these once indispensable accompaniments of all riders has fallen off.

They do not turn out anything like the number they did a few years ago. Then a repair outfit went with every bicycle and every pair of tires sold, and hundreds of thousands more were sold over the counter, to take the place of used ones. A rider would almost as soon have thought of starting out without a pump as without a repair kit.

There are still as many riders, still as many bicycles in use. But the repair outfits have dropped off amazingly. As an extreme instance of this, it may be said—and the statement will excite no surprise—that there are tires now sold without such outfits; if the latter are insisted upon they are charged extra for.

One cause of this decadence of the repair outfit, or, rather, of its use, is the greater disinclination to mend one's own tires now observable. Riders who formerly never thought of calling on a repair man to make

good such ordinary occurrences as punctures now take just the opposite course. For the small troubles, as well as the large ones, they turn to the repair man to extricate them. His charges are reasonable, and frequently even a man who can easily make a repair himself will have recourse to him.

Another reason for this abandonment of the habit of carrying repair outfits, and one which is but little commented on, is found in the greater reliability of the average tire.

A few years ago punctures, cuts and even bursts were of common occurrence. Few riders were exempt from them, and the majority were frequent victims. Tire troubles were almost expected. They were liable to be experienced at any time, and the far from pleasurable anticipations entertained in view of this fact were not often disappointed. The dreaded escape of air might occur at any time, any place, and few riders were so foolhardy as not to be prepared for them.

Then, too, the matter of cost of repairs was no inconsiderable item. Charges were higher then than now, and when it is recalled that repairs were much more frequently necessitated, it is easily understood why there should be a very great cost entailed, especially if the rider were more than usually unfortunate.

There is very little doubt that the tires of to-day give less trouble than their predecessors. Manufacturing processes have improved, and the reputable tire is a very reliable article. Misfortune will overtake it occasionally, but it is not very rare for a rider to go through an entire season without a puncture. Such a thing as dozens of them—a frequent occurrence years ago—is almost unheard of.

Troubles are Exaggerated.

For every time a motor bicycle goes wrong—even in the most insignificant detail—there may be a score of occasions when it is beyond criticism.

Nevertheless, the one untoward occasion will vastly outweigh the twenty toward ones in the mind of the rider. The latter are rarely thought of, scarcely ever dwelt upon. The owner of a machine may ride fifty or one hundred miles without a hitch, and think nothing of it; but let one thing go wrong and he will frequently remember only it, and wonder why he ever had anything to do with such a unreliable, even worthless "contraption."

This state of chronic fault finding is in-

separable from all new things. When the safety bicycle became popular, when the pneumatic tire put in an appearance, when light machines were first produced, and so on down the scale, the same disposition to find fault on all occasions was observable.

But as every change, every improvement, connected with the bicycle had to run the same gauntlet of criticism, so each and all of them finally outlived it.

The time came when some of the troubles complained of were removed; straightway the remainder were forgotten.

It will be so with the motor bicycle. The disposition to throw up one's hands in mingled horror and resignation every time the mixture is wrong or the sparking is not regular, or the belt slips, will ultimately disappear.

The more a rider uses a motor bicycle the better he will understand it and know how to use it and take care of it; that is, provided he has some glimmering of mechanical knowledge.

If he is without this, however, it were far better, both for himself and the trade, that he never crossed the saddle of a mechanically propelled bicycle.

For it is a fact, and it might as well be understood at the outset, that the rider who would not know how to screw up a nut if he attacked it wrench in hand—and there are not a few of these running around loose—has no business with a motor bicycle.

To use an Irishism, there should be, in such cases, a divorce before there is a marriage. Else there will be trouble.

It may be said for the motor bicycle, too, that even at this early stage of the game, there is a very marked lessening in the number of troubles encountered.

As we have learned by experience, it is not necessary to start out on a motor bicycle run with the fear constantly in one's mind that the return journey will be made by train or on foot. Or even that something will surely go wrong, although it will be of such a simple nature that it can be quickly made good.

It is quite possible, even now, to come through such a run without a mishap of any kind; without having to touch any one of the many parts that could go wrong.

And this immunity from trouble will become greater as the months go by.

Has Settled Itself.

It used to be at this season of the year that the question of side lines was taken up and discussed in all its phases.

Dealers were asked if they were doing anything in side lines, or if they intended to make a start, and no effort was spared to convince them that their only hope of salvation—in a commercial sense, of course—lay in these much discussed side lines.

Of late the subject has not been so much touched upon. The changes are no longer rung upon it; the retail trade is no longer catechised and lectured on its imperative duty to itself and the remainder of the trade in the matter. Instead, it is left to fight its own battles, to grapple with the problem as best it may.

This new policy has not been adopted in pursuance of any belief that side lines are no longer necessary.

The belief in their necessity is even stronger than it was before. Indeed, it is no longer open to dispute. Without side lines the great majority of dealers cannot exist, consequently the fact that they do exist is pretty strong evidence that they are handling side lines.

Such is undoubtedly the case. The time for talk about the matter is past. Action must take its place and has done so in most cases.

The successful dealers to-day are those who have incorporated side lines with their cycle business.

History and Motor Bicycles.

Man's memory is fickle. It forgets quickly and in spite of itself. Impressions so deep or so marked as to seem indelible rapidly efface themselves. Nothing better serves to illustrate these observations than the respective receptions accorded the several innovations or "trade revolutionizers" or semi-revolutionizers that left their impress on the industry.

Each in turn was received with doubt and derision. Generally speaking, all were treated with contempt. Time and money were spent in the effort to actually fight them down and provide makeshift substitutes. Despite sweeping triumphs of successive innovations, the same men pursued the same policy of scepticism and opposition whenever anything new appeared. The experience of the past went for naught.

The safety bicycle, the pneumatic tire, the coaster-brake, the cushion frame, each in turn was compelled to fight for its very existence. The same may be said of nearly all the lesser improvements.

It is not strange, therefore, that there are still to be found not a few who doubt and

repel the motor bicycle, some of them in high places. As an exposition of the doubt and opposition that its predecessor encountered, the extracts from cycling history which we reproduce elsewhere in this issue are full of human interest; they make entertaining reading. If anything, they demonstrate that the sceptics and unbelievers of to-day lack the fire and intensity of the past; they talk less in print and more with the tongue.

The arguments they bring to bear against the motor bicycle are full brothers to those uttered against the early innovations. The terrific vibration, the dust and dirt that come of being seated near the ground, the complication, the sensitiveness of steering, the friction of the chain—all these were urged against the safety bicycle. Its cost, its repulsive appearance, its side slip, its "suction," its "explosions," its extra liability to puncture and injury, its impossibility of repair by the average man—these were but a few of the obstacles the air tire encountered. The forerunner of the cushion frame—the spring frame—was practically ridiculed off the market. The coaster-brake was laughed at as a "freak" or treated with disdain or silent contempt.

If the sponsors of these innovations and the small minority who placed faith in them had permitted themselves to become discouraged and had bowed to what we call public sentiment, their respective inventions would have died a-borning and the cycle trade would still be wearing bibs and tuckers.

It required all of five years for the safety bicycle to thoroughly assert itself. Three years elapsed before the pneumatic tire won its way into full faith, and the coaster-brake, as we all know, took even longer to attain the same end.

The motor bicycle, therefore, may be said to have progressed famously. This was its first year, and the twelve months have been marked by substantial if not sensational progress.

Doubt cannot be dispelled in a day, nor perfection be attained in a year. We cannot bring ourselves to believe that a bicycle which overcomes the last obstacles to cycling—hills and head winds—can fail to prevail. We have faith in its improvement and simplification, and in the ability of the average rider to understand and care for it just as he learned to understand and care for the "complicated" safety and the "irreparable" pneumatic tire.

FIGURING PROFITS

Mistakes Committed by Most Retailers— Items That Should be Considered.

Retail business in its highest modern development may be regarded almost as an exact science. It is only the few and the very largest among the retailers, however, who have yet reached this degree of mercantile perfection; the majority, especially the smaller ones, still running their business on the old plan, in which detail is deplorably lost sight of and guesswork largely rules.

For instance, we are often asked the question, "What would be a fair profit? What does 'a profit' mean?"

Many a retailer who regards himself as quite an accomplished business man will add, say, 35 per cent to the cost price and proceed to sell the goods in the belief that he is making 35 per cent profit.

Cost price, expense, profit are the main items that enter into every commercial calculation. Without accurate knowledge of the amount of each of the first two items, the third, and the most important, will always be an unknown and uncertain quantity, says the Keystone. The failure of many merchants is traceable to the fact that they operate without a thorough and comprehensive method or system for ascertaining the relative percentage of expense incidental to conducting their business. As a consequence they either sell their goods too low, thereby incurring direct loss, because they realize insufficient, if any, profit, or they place too high a value on their goods, resulting in loss of sales.

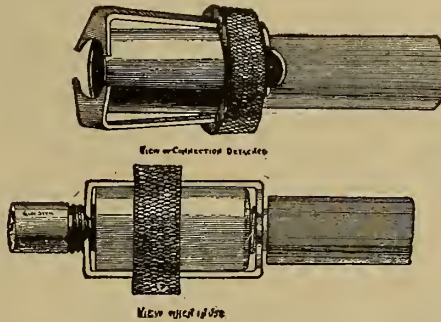
As necessary a part of merchandising as buying or selling goods is to ascertain the expense connected with handling them; then the cost price and this expense should be summed up before the merchant adds the profit he wishes to realize. In calculating expense the merchant should include all items of expense which do not add anything to the value of the product, but necessarily arise from and are incidental to conducting the business, such as store rent, insurance of stock, taxes, bookkeeping, postage, stationery, and, last but by no means least, the cost of advertising and salaries of salespeople, and a sum sufficient to cover the time and labor which the proprietor will find it necessary to devote to handling the goods. When the relative percentage of expense to the amount of goods purchased has been ascertained and due allowance has been made for the same, as well as for probable losses on bad debts and possible shrinkage in value, the business man is in proper position to fix the percentage of profit to be added to his goods.

Now, as the question of profit depends not only on the actual cost of the goods, but also on so many items of expense, we, of course, are not in a position to say how much should

be added to the cost to make a "fair profit." This is a question for his own careful calculation, and failure to make it accounts for the fact that sometimes merchants go along in business and think they are making money until the first inventory is taken, when to their amazement they find that they have made little gain or that they have actually lost money.

Fits all Valves.

Because of its capacity for holding on, the C. H. Larson Cycle Co., Chicago, have dubbed the new pump connection which they



are marketing and which is here shown, the Bull Dog. The idea is, of course, to provide a connection that will fit all valves; the illustration shows the device in use and out of use and clearly explains the principle involved.

To Increase One's Wages.

Every employe pays for superintendence and inspection. Some pay more and some less. That is to say, a dollar a day man would receive two dollars a day were it not for the fact that some one has to think for him, look after him, and supply the will that holds him to his task. The result is that he contributes to the support of those who superintend him. Make no mistake about this: Incompetence and disinclination require supervision, and they pay for it, and no one else does.

The less you require looking after, the more able you are to stand alone and complete your tasks, the greater your reward. Then if you cannot only do your own work, but direct intelligently and effectively the efforts of others, your reward is in exact ratio, and the more people you can direct and the higher the intelligence you can rightly lend, the more valuable is your life.

The law of wages is as sure and exact in its workings as the law of the standard of life. You can go to the very top, and take Edison for instance, who sets a vast army at work—and wins not only deathless fame, but a fortune, great beyond the dreams of avarice. And going down the scale you can find men who will not work of themselves and no one can make them work, and so their lives are worth nothing, and they are a tax and a burden on the community. Do your work so well it will require no supervision, and by doing your own thinking you will save the expense of hiring some one to think for you.—The Philistine.

ABOUT JAPANNING

Enamelling Really a Lost Art—How to Obtain the best Results.

It requires some stretch of the imagination to designate as enamelling the method used to decorate cycle frames and forks. It has little or no affinity with the true enamelling, being a widely different and infinitely cheaper process. Yet enamelling it is, has been and will be termed, probably to the end of the chapter.

The art of enamelling proper or the fusing of color pigment on metal is somewhat of a lost art. The Japanese still carry on the old enamelling process, which would be too costly both in time and material to enter to any great extent into the cycle manufacturing industries.

In enamelling—or, more properly speaking—japanning metals, all good work of which should be stoved, they have to be first thoroughly cleaned, and then the japan ground applied with a camel's hair brush or other means, very carefully and evenly. Metals usually require from three to five coats, and between each application must be dried in an oven heated from 250 degrees to 300 degrees Fahrenheit—about 270 degrees being the average. The best grounds for japanning are formed of shellac varnish, the necessary pigments for coloring being added thereto, being mixed with the shellac varnish after they have been ground into a high degree of smoothness and fineness in spirits of turpentine.

In japanning it is best to have the oven at rather a lower temperature, increasing the heat after the work has been placed in the oven. When a sufficient number of coats have been laid on—which will usually be two only—the work must be polished by means of a piece of cloth or felt dipped in tripoli or finely powdered pumice stone.

For white grounds fine putty powder or whitening must be employed, a final coat being afterward given, and the work stoved again. The last coat of all is one of varnish.

Rules for Calculating Machine Speed.

The diameter of driven given to find its number of revolutions: Multiply the diameter of the driver by its number of revolutions, and divide the product by the diameter of the driven. The quotient will be the number of revolutions of the driven.

The diameter and revolutions of the driver being given, to find the diameter of the driven, that shall make any number of revolutions: Multiply the diameter of the driver by its number of revolutions, and divide the product by the number of required revolutions of the driven. The quotient will be its diameter.

To ascertain the size of pulleys for given speeds: Multiply all the diameters of the drivers together and all the diameters of driven together; divide the drivers by the driven. Multiply the answer by the known revolutions of main shaft.

WE ARE EXCLUSIVELY

MANUFACTURERS OF TIRES.

Our efforts are concentrated in the endeavor to produce the highest grade articles that can be produced.

The most successful types now for particular people who desire THE BEST are these two:—

HARTFORD SINGLE TUBE

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TIRES.

WE MANUFACTURE AND SELL THEM BOTH.

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BICYCLE'S INFLUENCE

Wherein it is Plainly Shown on Trotting Tracks and Racing Vehicles.

It is the fashion in some quarters to give the least possible credit to the bicycle and the influence it has exercised in many directions. Where credit must be given it is given grudgingly, and, so far as possible, minimized.

The bicycle revolutionized the construction of trotting sulkies. To-day the sight of one of the old wooden high wheel sulkies is a rare event; eyes follow it, tongues comment on its archaic appearance. Its advent on a trotting track would seem to the regular habitues only slightly less incongruous than that of a horseless vehicle. So complete has been the victory of the once condemned and derided "bicycle wheel" sulky.

But the matter did not end there. The influence of the wire wheel grew until it affected the tracks also. With the oldtime trotting tracks no great amount of attention was bestowed on the surface. A hard surface was undesirable both for the horses and for the high wheeled sulkies. It was an advantage for the latter to cut in on the turns, as they slipped less than if the surface was hard. Owing to the height of the wheel there was a tremendous leverage exerted, and the cutting in of the wheel, largely due to the small steel tire, operated to prevent this causing harm.

The wire wheeled, rubber tired sulky changed all that. The harder and better the track the better it behaved, and while the necessity for giving the horse a foothold prevented the use of very hard tracks, considerable progress was undoubtedly made in this direction.

This matter was brought to mind very forcibly recently. The *Bicycling World* man was in Providence, R. I., and visited the famous Narragansett Park track for the first time in nearly a dozen years. On the former occasion he had raced there on a high wheel, and had a very distinct remembrance of the track as being soft and sandy to a degree. The wheels had cut in to a depth of one and even two inches, especially on the turns, which were bad for even the average trotting track of that day.

As a result of the almost universal use of rubber tired wheels, however, the surface of the track has undergone a complete transformation. In place of a loose, sandy soil of a decade ago, clay has been judiciously mixed with the original material, and a surface hard enough for bicycle racing is the result.

Of course, bicycle racing is about the last thing that will ever be attempted on this mile circuit, but the change is remarkable nevertheless.

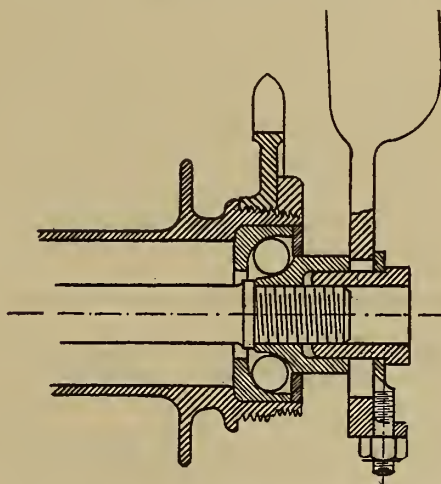
It has been suggested that it would be well for motorcycle manufacturers to have a graduated series of sizes of piston rings, so that slightly larger rings than the old ones would compensate for the admittedly small amount of wear on the cylinder walls.

One of the most important factors in gaining efficiency in a gasoline motor is maintenance of compression, and this can never reach a maximum unless the piston rings are in first class order. Yet many riders go on long after the phase of even moderate efficiency is passed, and only renew the rings when the motor is found to have lost all power uphill.

Making Easier Detachment of Wheels.

Ease of detachment of front and rear wheels has long been a desideratum in cycle construction, and many efforts have been made to attain it. Frequently, however, they have left much to be desired, especially in the matter of simplicity.

Such a criticism cannot be made of a de-



vice brought out by that veteran English tradesman, William Starley, and now about to be placed on the market. It is but one of a number of little devices which the scion of the celebrated Coventry family has invented, all intended to accomplish that very difficult task, the improvement of the present day bicycle. In this instance, at least, he has hit upon a meritorious device, and a novel one as well.

The axle is made just long enough to clear the inside of the fork ends. The axle nuts are hollow, with a shoulder which engages with the face of the fork end, the nut projecting through the fork end and engaging with the thread on the axle. The cones are recessed so as to fit over the protruding end of the axle nuts, or pipe nuts, as the inventor terms them. The device is particularly simple and neat.

To Restore a Reamer.

To increase a reamer to size when worn, burnish the face of each tooth with a hardened burnisher (made easily) from a three-cornered file nicely polished on the corners. This will increase the size from 2 to 10 thousandths in diameter. Then hone back to the required size.

BULLER'S BREAK

Britain's Bungling General Sweepingly Denounces Bicycles for Military use.

It is not often that any public man puts his foot into it every time he opens his mouth. He nearly always has intervals of sanity and lucidity, and during them makes some amends for his previous "breaks."

But General Sir Redvers Buller, England's great warrior—on paper—is not of this stamp. He can always be depended on to say the wrong thing at all times.

His latest indiscretion is to make a savage and entirely uncalled for attack on military cyclists. Even the loyal British trade press cannot stand this, and they are out in guarded but none the less sincere denunciation of the general, the consensus of their opinion being that he does not know what he is talking about.

"I look upon the cycle," says the general, "as the worst and most cumbersome means of transport for soldiers that I have ever seen, and I cannot help thinking that all the advantages that could be obtained from a cycle corps could be better attained from the same corps if provided with a better means of transport."

"We cannot help thinking the very same thing," says the Cycle Trader, sarcastically, in an article significantly headed, "Poor Buller." "Neither can we any longer blind ourselves to the fact that a man seated in a train moving at the rate of thirty miles an hour would travel exactly twice as fast if he were occupying a seat in a train going at a speed of sixty miles an hour."

"The profundity of the general's dictum reminds us of Abraham Lincoln's opinion about something that was submitted to him. He said: 'For people who care for this kind of thing, this is the very kind of thing that they will care for.'"

"If Sir Redvers Buller, instead of indulging in such subtle and intricate theories as telling us that a better means would be better, would kindly show us a better means, he would be doing something calculated to make us believe that our military affairs are not managed as if our army were a comic opera army."

"It is certainly curious that one of our most conspicuous generals should—in his own way—endeavor to throw discredit on an auxiliary to military movements which has now a permanent place in every Continental army; and the circumstance may not be without its significance in view of the history of the Boer war."

"It is of a piece with the whole wretched system in vogue at the War Office. It is somewhat disquieting that after the terrible lessons learned so recently the command of one of our three army corps should devolve on an officer who could pen such an absurdity as we have quoted, and who is so out of touch with the spirit of the times as to be at variance with the up-to-date authorities of every civilized army."

About Building Motor Bicycles.

"Let no man think he is going to meet with success right away, or that all he has to do is to build his bicycle, buy a motor, and put the two together," says the veteran Henry Sturkey, in dealing with the matter of motor bicycles. "Unless he has some practical, and, if possible, scientific, knowledge of motors, their use, management, peculiarities, and constructional principles, he is not likely to succeed, even if he leaves motor manufacture to others. Let him therefore first buy a motor bicycle and use it steadily, constantly, persistently and intelligently, until he has conquered its intricacies, and can make it do just what he wants it to do, and do it just when he wants it to.

"Then, and not till then, let him begin to seriously construct or experiment in construction himself. And when this time comes, let him beware of making the mistake of simply taking a bicycle designed for human propulsion and strapping a motor upon it. Such a machine may be made to work, it is true, and may serve as a makeshift, and may even sell, but I am convinced the motor bicycle of the future will not be that; besides which, a motor bicycle so constructed must always be a subject for price cutting, for there are as many fools in the bicycle trade to-day as there always have been, whose one and only idea of trade is to cut prices on whatever they touch, and these people will very quickly get on to this composite machine, because it is one which any-

body can make. No, I feel certain that such a motor bicycle will not be a lasting pattern. The problem, yet similar, is so different, and the strains and method of use are so different, that the machine, as a whole, requires to be specially designed for it, and the firm which does this to the best advantage will meet with the most success, and its success will be lasting, for the machine itself will be a lasting and satisfactory article."

Fishing!

Suppose the fish don't bite at fust,
What be yew goin' tur dew?
Chuck down yewr pole, throw out yewr bait,
An' say yewr fishin's threw?
Uv course, yew hain't; yew're goin' tur fish
An' fish an' fish an' wait
Until yew've ketched yewr basket full,
An' used up all yewr bait.

Suppose success don't come at fust,
What be yew goin' tur dew?
Throw up the sponge an' kick yewrself,
An' go tur feelin' blue?
Uv course, yew hain't; yew're goin' tew fish
An' bait an' bait agin;
Bimeby success will bite yewr hook,
An' yew will pull him in.

—(Exchange.)

Tricycles Still Sold in England.

One of the peculiarities of the present season, according to Cycling, has been the increased demand in England for tricycles. A number of firms are said to have done a good business in them—much better, in fact, than for some years past. Tandems, on the other hand, have experienced a diminution in popularity. Only a few firms still catalogue the latter.

Novelty in Vibration-Killers.

A novelty in anti-vibration devices, in that it is entirely separate from and an auxiliary to the ordinary bicycle frame, has been patented by an English inventor, and is about to be placed on the market.

The principle of the device is described as being the same as that of a spring balance.

The spring fixes between the horizontal bar of the diamond and the lower bar, close up to the head socket.

It is inclosed in a movable case which pulls against it, and the top of which is affixed to a steel bar just above the horizontal. This bar passes along the top of the frame nearly to the rear, and there it curves up and has a lower bar affixed. This lower portion fits into the socket of the saddle pin, and forms a pivot at its point of junction with the main bar, which, following its upward curve, is continued over the seat pillar, and there takes its place as the support for the saddle.

As obstructions are encountered or as a bumpy road is traversed the spring gives to the weight of the rider and keeps him in one position, the seat pillar below the saddle support rising and falling without his feeling the slightest jolting, as he would on an ordinary saddle.

The invention does away with the necessity for so much spring work about a saddle, and, fitted with a light saddle, will only weigh from one and a half to two pounds—the weight of an ordinary spring saddle. It is also proposed to keep the cost within moderate limits.

It Would Have Been Strange, MORROW COASTER BRAKE

indeed, did the

fail to receive

The Highest Possible Award
at the Pan-American Exposition;

and, of course,

NOTHING OF THE SORT OCCURRED.

The Morrow obtained the highest honor of its class—a silver medal.

If there had been anything higher it would have obtained

it as easily. The Morrow never fails to score wher-

ever shown or wherever sold. The Pan-

American prize is merely the latest

of many honors.

Eclipse Mfg. Co.,

= =

Elmira, N. Y.

(Continued from page 69.)

start, the trade was as hopelessly at sea. Said the Wheel of December 18, 1891:

"A canvass of the English trade on the tire question has produced a most interesting result. The question asked was which tire would share the largest trade next season. Of 51 firms, 28 believed that cushions would lead, and the majority of the firms favored small-bore cushions; 27 votes were given in favor of solids, 22 of the 27 specifying large solids; 15 votes were given for pneumatics generally, 10 for Clincher pneumatics, 2 for Boothroyd, 2 for Mackintosh and 11 for Dunlop pneumatics."

The following year nearly all American makers gave purchasers their choice of solid, cushion or pneumatic tires. The Columbia people then adopted the single tube tire, and as practically all others pinned what little faith they had to the double tube, a mighty howl of derision went up. "Hosepipes," "inflated cushions" and other such belittlement were hurled at it often and long. Few believed that it would survive.

REPAIR QUESTION A BUGABOO.

Whoever used the air tire did so in fear and trembling. The repair question was the mighty one. The rider who could repair a tire was considered a marvel. The repair of a puncture frequently cost \$2 to \$3, and "bursts" or "boils" and they were numerous—\$3 to \$5. It was the general belief that few men who used the tire ever returned home a wheel; the tire was considered an aid to pedestrianism and railroad travel.

As is now the case with motor bicycles, so little was known of the care and repair of pneumatics that some of the makers issued handbooks, explaining the "A B C's" of the "contraption." Even in England it was so little understood that the *Bicycling World* of April 8, 1892, indorsed this idea from abroad:

COOPERATIVE TIRE INSURANCE.

"Another new idea which comes to us from England is a scheme for the co-operative repairing of punctured tires. According to the *Bicycling News*, this has been demonstrated as a successful scheme by one of the prominent clubs. The plan is for a number of clubmen or friends, who ride together and use pneumatics, to establish a fund by taxing themselves say twenty-five cents per man; when a break takes place, the repairs are paid out of the general fund, which when exhausted is replenished in the same manner as it was started. By this means, for a comparatively small outlay, the rider is insured. An original, and, we think, a rather good idea, quite worthy of being transplanted."

PUNSTERS HAD THEIR FUN.

The *Bicycling World's* faith in the new-comer, however, was strong and unquestioned. Thus in April, 1892, when the professional punsters and artists were making all manner of fun of it, the *Bicycling World* protested in this language:

"It is high time that this senseless jargon regarding the unreliable qualities of the

pneumatic tire should cease, and caricaturists would do well to end their flings at the same. We have ridden pneumatics of various styles for over a year and have nothing to find fault with, and everything to praise in the air tire. Progression is the characteristic of the age in which we live, and why such should be retarded by jest, either in the line of writing or illustration, is beyond our comprehension. The omnipresent jester is, however, bound to have his fling at novel ideas, but a "grain of salt" should be administered before seriously considering his remarks of caricatures."

JUST AS MOTOR BICYCLES ARE TO-DAY.

Earlier, August, 1891, the Wheel had summed up the situation almost as the motor bicycle situation might be summed up to-day—steep first cost and the fancied difficulties and costs of care and repair were, as now, deterrents. Said the Wheel:

"The thin, solid tire is a 'thing of the past' for a road wheel. The pneumatic is a 'thing of the present' and more so of the future. The cushion is the fence of safety between the thin solid and the fat pneumatic side; but in any event the thin, solid ninety per cent of the riders are safely perched. Those who have the purse pléthoric will gradually climb down off the fence on the pneumatic side. If the flags, "No Puncturing," or "No Cutting," or "Five Minutes and Five Cents for Repairs" are hung out, all will get down off the fence on the pneumatic side; but in any event the thin, solid tire side of the fence is deserted."

It is difficult to believe that the bicycle that will overcome hills, headwinds and personal limitations is not as desirable and enticing as the tire which "made all roads smooth."

COASTER BRAKE CONSIDERED A FREAK.

Coming nearer to the present day, the coaster brake received no warmer welcome or enjoyed no happier experience than the innovations that had preceded it; indeed, it received no reception at all, generally speaking. It was considered of all freaks the freakiest. It is even reasonably safe to say that outside of President Fulton and Superintendent Morrow, of the Eclipse Bicycle Co., none viewed it seriously, and their use and advocacy of the device were accepted as symptoms of impending insanity. Its coming scarcely created the faintest ripple. It was heralded inconspicuously in the cycling press, but neither press, public nor trade considered it worthy of remark. It was treated, when it was treated at all, with mingled contempt and derision, a dash of pity for the men who fathered it being sometimes thrown in for good measure.

At the time the Eclipse people were building bicycles, and the only way they could get the coaster brake on the market was by actually forcing it on their agents. They fitted it to their own bicycles, and while the fact was kept quiet at the time, it is now laughingly admitted the venture raised a storm that came near wrecking the Eclipse ship. Almost with one voice the agents pro-

tested that they could sell no bicycles fitted with "that thing." The *Bicycling World* man has heard the manager of an Eclipse branch relate how he almost went down on his knees and begged President Fulton not to saddle him with such an unsalable bicycle. He protested that the mere fact that such a "freak" was on the store floor hurt his business—that it was the laughing stock of the trade and public who came into the branch and jibed him beyond endurance. On one of these occasions he threatened to "throw all of the d—d things into the street."

It required backbone to withstand such adverse pressure from within one's own confines, but the Fulton spinal column proved equal to the strain, and almost as quietly as it, and by almost weekly urging aided in coaster brake glide into use and favor, the *Bicycling World* throwing its influence for it and by almost weekly urging aided in fully opening the trade's eyes to the advantages of the device.

These historical facts serve to show that history is but repeating itself and that, comparatively speaking, the motor bicycle is travelling an easy road to the abiding place of Public Favor. For a one-year-old infant it is doing uncommonly well. The skeptics may keep it in the nursery longer than its fathers and friends may desire, but it is a lusty lad, capable of so much and such far-reaching good that it cannot long be contained, and is likely to "break out" and expand in a large way at almost any time—most likely at the time the price reaches the public's notion of a popular figure.

Concord Claims the Credit.

Editor of The *Bicycling World*: I have been a subscriber to the *Bicycling World* for the past four years, and enjoy it very much—could hardly get along without it, in fact. My object in writing to you is to correct a few statements that I find in an article on page 46 of the issue of October 17, headed "Champion Thief or Liar." John J. Graham, the man referred to, was arrested by the Boston police upon the requisition of our Chief, William Craig. Graham had stolen seven bicycles here, and we had been on his track for a month. He was finally located by a description given by a second-hand furniture dealer in Boston to whom he had tried to sell a wheel. We have recovered two of the wheels, and Inspector Cronin, of the Boston force, did the arresting for us.

There are no wheels at Police Headquarters in Boston that he stole, and never were. His method was to sell to the second-hand furniture dealers, never to the pawnbrokers, so it made it doubly hard to trace him. He was brought here for trial before my uncle, John S. Keyes, judge of the District Court, and bound over to the grand jury. Since then there have been any number of complaints from the towns mentioned in your article piled against him. My only object in writing this is to have the honor of catching such a thief given to the person to whom it belongs, our Chief of Police, Mr. Craig, and not to the police of Boston, who knew nothing about the case until requested by us to arrest him.

JOHN M. KEYES, Concord, Mass.

ABOUT CHAIN STAYS

Merits of the Different Shapes Discussed—
Strength vs. Stiffness.

An examination of the various cycles at present manufactured will show that more diversity exists in the design of the chain stays than in almost any other part of the machine, says H. A. Garratt, M. I. C. E., in *Wheeling*.

This appears to arise partly from the fact that some doubt exists in the minds of makers as to the exact conditions of the problem.

The problem is the same for all chain driven machines, and it seems unreasonable to an ordinary engineering observer that so much variety should exist.

The above considerations led the writer to investigate the relative strength and stiffness of the various special sections of tube in common use, and the results are embodied in the following table:

CIRCLE.	Maximum horizontal dimension.	Maximum vertical dimension.	Thickness.	Area of Section.	Strength. Z.	Stiffness. I.
	inches.	inches.	inches.	inches.		
Circle .....	.536	.536	.077	.11	.0115	.00308
Circle .....	.75	.75	.05	.11	.01807	.00678
D .....	.536	.895	.05	.11	.01303	.00341
Ellipse .....	.536	.96	.05	.11	.01403	.00376
Fluted .....	.453	.803	.05	.11	.01131	.00256
Rectangle .....	.536	.664	.05	.11	.0173	.00464

Both the strength and stiffness are considered solely with regard to bending in a horizontal plane, for it is in that way that the chain stays are most liable to yield.

The distinction between strength and stiffness is this: A strong body will break down, i. e., become permanently bent, less readily than a weak one.

A stiff body will deflect less readily, though possibly break more readily, than a less stiff one.

The strength of a body to resist bending is measured by a function of the dimensions of the cross section known as the *modulus*, and the stiffness by a similar function known as the moment of inertia.

In comparing tubes it is essential that they should all be made of the same gauge metal, and have such dimensions that the weight per foot run is the same in all cases. In this particular problem it is desirable that they should all have the same maximum horizontal dimension in the cross section, i. e., that they should all give the same amount of wheel and crank clearance.

In the case of the round and fluted tubes it is impossible to comply with this latter condition without altering the gauge of the metal.

In the table below, Z is the modulus and I the moment of inertia, it being customary to use these letters in these senses in technical literature.

It will be observed that the plain .75 inch circle is distinctly the strongest and the

stiffest, but the pair of tubes would together occupy nearly half an inch more space sideways than the others.

As a matter of fact, on the chain side the crank seldom comes very near the stay of the pedal end, so that the quarter inch on that side does not matter. On the other side it only matters when the tread is made lopsided—a very questionable advantage to the rider.

With regard to the special tubes with a .536 inch horizontal dimension, the rectangle is well first and the ellipse second. The D does not come out well, and the fluted section is the worst. There was a difficulty with the fluted section. If the horizontal dimension was .536, like the others, the vertical dimension had to be increased also. This brought up the area, and consequently the weight also, which put it out of the running unless the gauge were reduced. A reduction in gauge would not have been fair, as a similar reduction in the other tubes would have made it possible to increase their stiffness and strength also per unit weight per foot run.

His Pedal Repair.

It is true that desperate cases require desperate remedies, and when a rider is in a hurry to get home there are few things that he will stop at. As a method of "repairing" a bent pedal pin, however, the following is not recommended, although it is said to have been followed by one rider.

After describing the collision which caused the damage, the rider in question goes on to say: "The pedal would revolve, but it had a most determined rock—a movement which is always disconcerting and tiring. By loosening the cone at the end of the pin to its fullest extent, not only was the pedal able to revolve quite freely, but the looseness of the bearings permitted it to oscillate and so counteract, to a very large extent, the rocking of the pin. A further diminution of the evil effects arising from the bent condition of the pin was obtained by raising the foot slightly from the pedal on the up stroke.

"Cyclists are essentially men of resource, so that the methods adopted for getting over a difficulty are scarcely likely to be new, but I have never heard of this one, so the hint may come in useful for others."

In laying out work on planed surfaces of steel or iron use blue vitriol and water on the surface. This will copper over the surface nicely, so that all lines will show plainly. If on oily surfaces, add a little oil of vitriol; this will eat the oil off and leave a nicely coppered surface.

MOTOR VEHICLE REPAIRS

Suggestions Regarding Jobs That Come to
Cycle Repairers Whether or no.

It is only natural that the cycle repairer should fall heir to no inconsiderable amount of motor vehicle work, whenever he shows the slightest disposition to invite it or look after it properly. This is especially true of little things, such as tire troubles, buckled wheels, bent axles, etc. He has but to lift his hands to build up a good trade of this character.

At this season of the year particularly the matter is worthy of attention. The automobile season is longer than the cycle season, for it is scarcely an exaggeration to say that it never ends. Riding is indulged in throughout the winter, and it follows as a matter of course that there is repairing to be done. With the cycle repairer, on the other hand, trade is getting slack just about this time, and there are many reasons why he should look for something to bridge over the dull season. While he need not go extensively into motor repairing, he can readily turn his hand to some of the jobs that possess an affinity to cycle repairing, and with decided advantage.

"Referring to the tools and appliances you will require to tackle motor work," says a writer on this subject, "it may be well if I just indicate in quite a general way some of the immediate necessities.

"A great many of the breakdowns which occur to motor cars on the road have reference to either the steering gear or the springs, and if either of these parts is to be tackled a forge or blacksmith's hearth is almost a necessity. The usual appliances which go with a forge are: anvil (which should be a good size), tongs of all shapes, fullers, top and bottom swages of various diameters and hot and cold setts, with, of course, hand hammers and sledges.

"Among the machine tools which will be required are large lathe and large geared drilling machine. The latter is a tool which on motor repairs is constantly in use. Lifting jacks will, of course, also have to be provided, while a full range of spanners, both of the shifting and double ended variety, will have to be kept at hand.

"The more insidious class of breakdowns on motor cars are those which have to do with the electric ignition devices, and it is necessary that the repairer should be well supplied with electric transmission wire and such oddments as guttapercha tape, rubber tape, etc. He should also be provided with ampere meter and volt meter, and be acquainted with the principle of their use in finding faults and discovering shorts or leakages.

"The packing of glands, cylinder covers and water circulation joints should also be carefully noted and care be taken that the necessary material such as asbestos board and cord, as well as sheet copper and other packing materials, is ready at hand. The grinding in the valves is a job which will often come in the way of the motor repairer and should be carefully considered."

EXPORT WEAKNESSES

An American in Business Abroad Points Them Out in Strong Language.

"For two or three years I have been one of the 'others,' that is, in a foreign country looking back to the American manufacturer; and I can but feel that could the manufacturer generally have only a half hour's look back at the methods employed and the system followed at home, when he returned there would be a very general upheaval and change in office methods," says a Buenos Ayres correspondent of American Trade. "I am almost ready to say that I think the great foreign trade that the United States enjoys has and is being enjoyed 'in spite of ourselves.' Our country is so wonderfully rich and so plentifully blessed in all ways that notwithstanding the obstacles of ignorance of methods for trading among a strange people, our seeming carelessness and perhaps also a slight attack of what is commonly known as 'swelled head' and an unwillingness to allow any one to show us wherein we could make a change that would benefit all concerned—notwithstanding these obstacles I say, rather than because of our special brilliancy, as generally thought, have we come to be the nation we are. I may be wrong, but this is more or less what an experience of some two or three years abroad has made me partially believe.

"Let me cite a few cases which have come under my personal notice and for which I can vouch:

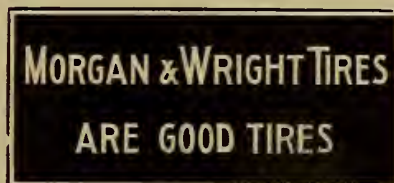
"A large manufacturer was addressed regarding a certain line for which the interested party thought by putting out a certain amount of hard work and money, advertising and pushing same, a good sale could be made in his territory; he offered the best of financial recommendations, the goods to be billed to a house of unquestionable strength in the States themselves; but as the goods were absolutely unknown, or at least absolutely unused, he asked that he be allowed exclusive sale for a period of some twelve months, in order to show what he could do, expecting if results should be satisfactory that the agency would be renewed.

"What did the manufacturer reply? Practically—'We have grown rich without any help of yours, and if you don't want to buy our goods on the same terms as any one else, leave them alone.' They did not write this, but they did put that idea into different words. This is a house that spends largely in newspaper advertising; which personally in a foreign field, I think, seldom yields any result at all, unless it be pushed by some agent at the same time.

"Another large house is interested in reaching a new field, and through one source or another obtained address of a large house here who were more or less in their line in a foreign market. They found on writing

that there was a probable opening. Although the manufacturer would not consider any agency or anything of that sort, the party on the ground said on receipt of catalogues, prices, with full details of the line, that they would at least sound the market. The company at home thereupon sent out (an actual case) three little two leaf circulars, containing a picture of the article, list of prices and the manufacturer's name. In this case the article was a machine, a new machine even in the States, and yet not a word was said as to its production, price of repair parts, weight, size, power necessary, in fact, nothing but the price. This letter came postage due 10 cents gold.

"These are not exceptions, but seem to be the rule; at least I hear it so said on all sides, and not alone in one country, but in the several in which I am doing business.



NEW YORK BRANCH: 214-216 WEST 47TH STREET.

If the reader of this thinks statements are overdrawn, and is sufficiently interested, let him write to any well known house or business man in a South American country and I think without exception he will get the above verified.

"Manufacturers should remember, when quoting in a foreign market, that while there may be made a market for their goods, yet probably the people are not actually suffering for them, as I read not long ago in one of the principal papers of the Argentine seemed to be the general idea among the North Americans, and that they will probably be unable to get their line satisfactorily pushed unless the man at the other end has some idea he is going to get paid for his work, as he would not be unless he was protected with a special price or agency. Then, after getting that point arranged, they should spend the time necessary to write one long, comprehensive, detailed letter, setting the matter before the man at the other end in such a way as to enable him to offer the goods, and explain what he has to offer and

why it is superior to anything else on the market.

"If the trade is worth anything it is worth taking the time necessary to do this and the extra postage it would cost to carry the letter to destination; in fact, it will have to be done before any amount of business is sent in, and it is very much to the manufacturer's advantage, as well as that of the agent, that it should be done at once and not necessitate a cross questioning and asking for explanations when it requires some two or three months to receive an answer to letter sent.

"When an order is received the receiver should also in common courtesy acknowledge same, and should he be obliged to send only a portion, holding the balance for a later shipment, he should so inform the party ordering. It would seem that this should be an axiom, but such is not the case, and in many cases is not done.

"When the party ordering specifies some particular way of packing, it is because he wants the goods to come in that way, and his instructions should be followed wherever possible. The man on the ground knows his needs and wants better than the man to whom order is sent, or he should at least; and the manufacturer should presume that such is the case, when the party is ready to exchange his money for the manufacturer's products.

"When making out invoices or quotation lists to go some thousands of miles away, particularly if going to a country where a different language is spoken, it is quite a 'good idea' not to abbreviate. This custom is bad enough at home, but for a foreign market is absolutely lack of attention.

"There are a good many other 'dos and don'ts,' but the basis of all seems to me is 'use common sense' and have the matters given the same or even more attention than the same inquiry, quotation, or shipment would have if for domestic delivery.

"One point further, however—if you as a manufacturer are asked for protection as exclusive agent by some foreign house, don't consider it unless you know the house to be of good reputation and to be workers, but if you do consider it at all, don't write that if he works up a demand you will then consider giving such an agency, as it is highly improbable that a foreign house will enter the market and work to introduce your goods on a 'probability.' After he has got the trade he does not need your protection as badly. When protection is needed is always at the start, not when a demand is created and a sale established."

This Business Increased.

During the last fiscal year the governmental pawn shop in Paris advanced loans on 5,292 bicycles, as against 4,103 during the corresponding period of the previous year.

Marconi Buys a Motor Bicycle.

According to foreign advices, M. Marconi, of wireless telegraph fame, has purchased a motor bicycle; whether for use or experiment is not stated.

COASTER-BRAKE TROUBLES ELIMINATED

IN THE FINISHED

FORSYTH

DON'T CLOSE
UNTIL YOU SEE IT.

Special Features: Simplicity (fewer parts than any other,) Lightness, Strength, Positive in Action, Fitted to either Chain or Chainless, Frictionless (coasts as easily as a chain wheel without any chain;) above all, our own *EXCLUSIVE SPECIAL FEATURE*, Regulation of the crank — throw can be adjusted without removing from the frame; no other Coaster-Brake on the market has this feature.

These few points ought to set you thinking. We have others. Better write us at once.

FORSYTH MFG. CO., BUFFALO, N. Y.

"Have a Look;
It Costs You Nothing."

1902 YALES NOW READY.

Cushion Frame Chainless — Racer —
Pace-Follower.

TRAVELERS ON THE ROAD.

The \$35 Yale is the "Best Ever."

THE KIRK MFG. CO., - TOLEDO, OHIO

1902 SNELL BICYCLES.

NEW MODELS.

TRAVELERS STARTING OUT.

WAIT FOR THEM.

1902 HUSSEY BARS.

NEW HUSSEYS.

THE SNELL CYCLE FITTINGS CO.

TOLEDO, OHIO.

"The Sphinx of the Twentieth Century."

ASIA AND THE CHINESE EMPIRE.

Comparatively few people are familiar with the Chinese Empire as it exists today. In view of the constantly growing Oriental commerce of the United States everyone should become familiar with the Chinese Empire. The

NEW YORK CENTRAL'S

"Four-Track Series" No. 28 gives valuable statistics and information regarding the Flowery Kingdom, and contains a new and accurate map in colors.

A copy of No. 28, "A New Map of Asia and the Chinese Empire," sent free, postpaid, on receipt of five cents in stamps by George H. Daniels, General Passenger Agent, New York Central Railroad, Grand Central Station, New York.

RACING

In the automobile race meet held on the Narragansett Park track, Providence, R. I., last Friday—postponed from the day before—motorcycles were given an opportunity to distinguish themselves. A five mile race for tricycles had been carded, and in addition to three motor tricycles one motor bicycle appeared ready to compete. Through courtesy the latter was allowed to start. At the word the four got away on even terms, the eight horsepower De Dion machine ridden by Kenneth A. Skinner bucking like a bronco in the effort to get down to work. Skinner took the lead almost immediately, followed by Peter J. Berlo on a five horsepower De Dion and C. S. Henshaw on a Perfecta, a French tricycle of the same power. These two were on even terms, with the two wheeler, ridden by U. Grant Scott, Newport's dusky motor bicycle rider, on a $2\frac{3}{4}$ horsepower Orient, a short distance behind.

Both as an exhibition of speed and as a race the contest between the motorcycles was the best of the day, barring Fournier's performance, of course. The first mile was covered by Skinner in close to 1:20, and the four following miles varied but little from this mark. This was too hot a pace for the other three contestants, and they fell behind gradually but steadily. Berlo and Henshaw fought determinedly for the advantage, and treated the spectators to a real race. At a little more than three miles Henshaw had trouble with his mixture, and Berlo took advantage of the opening and shot ahead. Scott's bicycle was unable to cope with the higher powered tricycles, and he dropped away, being lapped by both Skinner and Berlo. Had there been half a mile more to go, Henshaw would have met with the same fate. Skinner was first in 6:54½. Berlo, Henshaw and Scott following in that order.

In the ten mile sweepstakes, open to all classes, objection was made to Skinner starting, the claim being made that his tricycle was not an automobile. This even went to the extent of drawing up a written protest, but the futility of the move was seen, and it was not presented to the stewards. It was very plain, in view of the speed developed by Skinner, that he had the race at his mercy, barring accidents, and this proved to be the case. There was no semblance of a race as far as the tricycle was concerned; it took the lead at the beginning, and increased it steadily throughout the ten miles. At 5½ miles it lapped the second vehicle, and repeated the trick before the finish was reached. The time for the ten miles was 13:37½.

Joseph Nelson defeated Joseph Fulton in a fifteen mile motor paced match race at Vailsburg on October 20, making new marks all the way with the exception of the first, fourth and fifth miles. In the toss for positions Fulton secured the pole. He took the lead at the start and held it for two

laps, when he was passed by Nelson. The latter finished the first mile in 1:35 3-5, being outside the record three-fifths of a second. He broke the two mile record by 23-5 seconds and the third by 6 seconds. At four miles he lapped Fulton and passed him again in the ninth, and also in the thirteenth mile, and at the finish led by three and a half laps. His time for the fifteen miles was 24:55 2-5, seventeen seconds ahead of the record.

Miles.	Leader.	Time.	Time each mile.	Former record.
1...	Nelson	1:35 3-5	1:35 3-5	1:35
2...	Nelson	3:12 4-5	1:37 1-5	3:16
3...	Nelson	4:50	1:37 1-5	4:56
4...	Nelson	6:28 2-5	1:38 2-5	6:28
5...	Nelson	8:07	1:38 3-5	7:59 2-5
6...	Nelson	9:47 4-5	1:40 4-5	10:10 2-5
7...	Nelson	11:29 1-5	1:41 2-5	11:51
8...	Nelson	13:11	1:41 4-5	13:12
9...	Nelson	14:46 4-5	1:37 4-5	14:51 3-5
10...	Nelson	16:32 4-5	1:46	16:36 4-5
11...	Nelson	18:14	1:41 1-5	18:31
12...	Nelson	19:55	1:41	20:00 4-5
13...	Nelson	21:36 3-5	1:41 3-5	21:49
14...	Nelson	23:18 4-5	1:42 1-5	23:29 4-5
15...	Nelson	24:55 2-5	1:36 3-5	25:12 2-5

Another event which fairly took the breath away from the 5,000 spectators was something entirely new to them—a motor bicycle vs. motor tandem race, in which Albert Champion made the wonderful time of 6:24 for five miles, an average of 1:16 for each mile. This establishes a record which few riders will care to tackle. One of the tandems, with a handicap of 400 yards, finished about half a mile behind Champion. His times were 1:16 1-5, 2:32, 3:50, 5:07, 6:24. He conceded 400 yards to Dobbins and Bennett, and 220 yards to Newkirk and White. The latter's tandem team went wrong shortly after the start, and left the race between Champion and Dobbins and Bennett. Champion rapidly made up their handicap, and lapped them three times in the five miles.

William A. Brady has appealed to the Suffolk (N. Y.) Superior Court to settle a matter of \$600 in dispute between himself and Michael. Brady alleges that on September 2 last he, Michael and Elkes entered into an agreement by which the two riders were to engage in a race on September 14 following at the Manhattan bicycle track. This agreement, Brady avers, Michael did not carry out, racing instead on that day at the Revere track. In promoting the race Mr. Brady says he spent \$570. Prior to this incident there were business relations between Brady and Michael. According to Mr. Brady, there is \$54.73 still due him on this account. Thus Brady holds that there is \$654.73 owed to him by Michael. The latter's property has been attached for \$10,000.

At the races to be held on the Coney Island and Boulevard, New York, on November 16, under the auspices of the Long Island Automobile Club, two motorcycle events will be run. These are for motor bicycles and motor tricycles, respectively, one mile trials against time, over a measured and policed course. Twelve events in all will be held, all of them being mile trials for different classes

of vehicles except the last; it will be a sweepstakes, open to all winners.

Thieves have relieved Marcus L. Hurley, the amateur champion, of all that he holds most dear—his championship medals won this season. The burglars were unfortunate in timing their visit, as a couple of days before Hurley had taken all his diamond prizes to a safe deposit vault.

Next week a determined onslaught on the existing records will be made at the Empire City track, at Yonkers, New York. Among those down for trials are Albert Champion, who will endeavor to annihilate all previous bests from one to fifty miles on a motor tricycle.

Recent Incorporations.

Chicopee, Mass.—The Royal Motor Works, incorporated at Augusta, Me., with \$10,000 capital, to manufacture vehicles of all kinds and descriptions. The officers are: President, F. L. Dutton, Augusta Treasurer, E. F. Whittum, Augusta.

Sheboygan, Wis.—The Fairweather-Weigand Co., to conduct the sale of bicycles and sporting goods on a large scale. Incorporators: Samuel Fairweather, Paul Weigand and Samuel J. Fairweather.

The Retail Record.

Branford, Conn.—B. M. Prescott, closed for the winter.

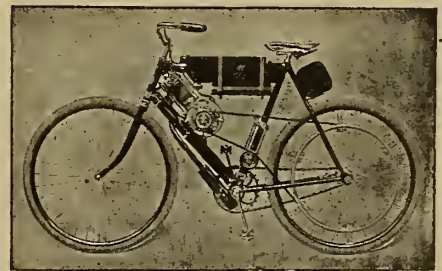
Bangor, Me.—Bangor Bicycle Co., loss by fire, \$800, insured.

New Haven, Conn.—J. C. Cronan & Co. has purchased the business of H. H. Guernsey.

Stamford, N. Y.—Frank H. Marshall has disappeared, it is thought, owing to financial troubles.

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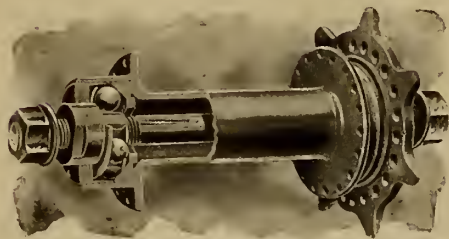
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The Week's Patents.

684,469. Bicycle. Cyprien Soucy, jr., Manchester, N. H. Filed March 27, 1900. Serial No. 10,375. (No model.)

Claim.—1. In a bicycle, a front fork composed of two members, one vertically movable within the other, a spring actuated peripherally grooved cam mounted upon one member, the spring for actuating said cam, and a chain or wire cable connecting the grooved periphery of said cam with the movable member of said fork, substantially for the purpose set forth.

684,647. Means for Plugging Pneumatic Tires. Hans P. Madsen, New York, N. Y. Filed July 17, 1901. Serial No. 68,570. (No model.)

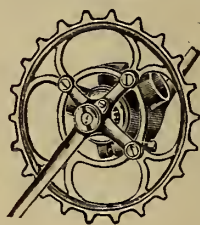
Claim.—1. A repair plug of rubber having a shank and head with a hole extending longitudinally of the shank out of the line of the axis, and a transverse notch on the opposite side of the shank, adapted to serve as herein specified.

684,712. Bicycle Wheel Tire. Charles H. Paschke, Buffalo, N. Y. Filed Feb. 27, 1901. Serial No. 49,027. (No model.)

Claim.—1. A bicycle wheel tire, comprising gum tread sections, spacing blocks therefor, carrier rings and binding rings adapted to retain the blocks and tread sections in ring form, and means for holding the series of tread sections and spacing blocks concentrically spaced from the rim of the wheel.

684,011. Explosive Engine. Joseph Valentynowicz, Chicago, Ill. Filed April 15, 1901. Serial No. 55,997. (No model.)

Claim.—1. In an explosive engine, in combination, a cylinder, a compression chamber, a chambered head located at the end of and having a valve closed port opening into the cylinder, means for supplying an explosive mixture to the chamber of the head, and a passage for conducting the mixture to the compression chamber and also for reconducting the same to the cylinder through the chambered head, and the bottom of the chambered head being located below the port opening into the cylinder so that any oil that may not be vaporized in the mixing chamber will be caught by and remain in the said chambered head until picked up by the mixture entering the cylinder.



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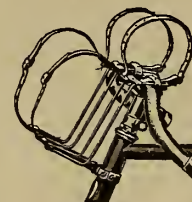


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The Bicycling World

AND MOTOCYCLE REVIEW.

In which is incorporated "The Wheel and Cycling Trade Review" and the "American Cyclist."

Volume XLIV.

New York, U. S. A., Thursday, October 31, 1901.

No. 5

SHELBY SHIFTED AGAIN

**Sales Department Removed to Pittsburg—
Many Men do not go with it.**

Since the inauguration of the general sales office of the Shelby Steel Tube Co. its lot has been somewhat akin to the unhappy householder's annual May 1st performance. No sooner has it been fairly settled in one place, than orders to pack up and move elsewhere were issued, with the consequence that the sales department has seemed to have had no fixed or permanent abiding place. First Shelby, then Cleveland, next somewhat divided between Cleveland and Chicago, with a report that the latter place would be selected.

New-York was next chosen, and here the weary pilgrims breathed a sigh of relief, believing that at last their moving was at an end. Their dream of peace and rest was rudely shattered this week with the issuance of sweeping orders, abolishing the New York and Chicago offices entirely, and transferring and consolidating the entire sales department of the company with headquarters at the Empire Building, Pittsburg, Pa.

Ever since the absorption of the Shelby Steel Tube Co. by the Giant of Trusts—the U. S. Steel Corporation—there has been much byplay between the Shelby and National Tube Co. groups. Once oldtime competitors, both were gathered into the capacious maw of the big steel aggregation, and the removal to Pittsburg suggests that the National Tube interests are uppermost. The move carries with it an almost complete effacement of Shelby men and measures, Edward Worcester, general sales agent of the National Tube Co., having been named for the corresponding position with the Shelby Steel Tube Co. Of the Shelby men who remain, W. Stacy Miller, the present president of the Shelby Steel Tube Co., will, it is said, be made an assistant to the new president; of the entire Shelby sales organization those retained and who will go to Pittsburg are W. Gage, H. S. White, E. K. Orr and R. Harris.

In the circular announcing the removal the company states that their manufactur-

ing facilities are being steadily augmented, and there is no doubt that a vigorous campaign will be pursued.

Trouble Over Taxation.

Among the thousands of Illinois corporations that are affected by the addition of some \$200,000,000 to the Chicago tax list as a result of the agitation relative to the assessment on personal property, are Arnold Schwinn & Co. In the case of the well known cycle manufacturers, the outcome was a levy made last week by deputies from the personal property department of the County Treasurer's office. The levy was for delinquent taxes claimed to be due, amounting to \$684. General resistance will, of course, be made to the collection of the taxes, and the case will probably be carried to the Supreme Court before it is ended.

Sale Realized Only one Per Cent.

Attorneys representing creditors of the defunct Adirondack Cycle and Specialty Co., of Buffalo, are seeking to have made permanent an injunction granted restraining the buyers of the company's assets from disposing of the property or of the proceeds from the sale of any of the goods bought. It is alleged that goods nominally valued at almost \$30,000 were sold at auction for less than \$400.

Barwest Changes Base.

After to-day the address of the Barwest Coaster Brake Co. will be 83 Chambers street, this city. The change of quarters is in the nature of a considerable expansion, the new offices occupying all of the second floor of the building, which runs through from Chambers to Reade street.

Doubled Their Capital.

The Richards & Conover Hardware Company, Kansas City, who are prominent also in the Western cycle jobbing trade, have increased their capital stock to \$500,000. It formerly stood at half that sum.

Hosmer Incorporates.

Buffalo, N. Y.—The G. A. Hosmer Co., with \$15,000 capital, to manufacture lubricating oils and bicycle supplies. Directors: Oliver Cabana, Giles A. Hosmer and Leon M. Cabana.

LAMP CHANGES HANDS

But it Remains in Waterbury and new Owner will Continue old Name.

The Matthews & Willard Manufacturing Company, Waterbury, Conn., have retired from the manufacture of bicycle lamps, but, without intending a paradox, the M. & W. lamp will remain on the market.

This is made possible by Matthews & Willard's transferral of that branch of their business to the Noera Manufacturing Company, also of Waterbury, who, appreciating the reputation of the lamp, will retain the name and form and features which have made it so generally known.

The Noera people are no strangers, their pumps, lamp brackets, toe clips, etc., being well known to the trade. Mr. Noera is in New York this week, and promises that the high standard of the M. & W. lamp will be maintained.

The Ephraims Make a Purchase.

Ephraim Bros., of Buffalo, N. Y., proprietors of the Buffalo Tire and Rubber Co., No. 59 East Genesee street, Buffalo, N. Y., and also of the store at No. 331 Main street, announce their purchase of the stock, fixtures and goodwill of Finn & Chretien, No. 625 Main street, Buffalo, N. Y., which business they will continue. The No. 331 Main street store is used exclusively for retailing of bicycles, sundries and tires. The No. 59 East Genesee street store is exclusive for jobbing of tires. For next season they have closed contracts with the Kokomo Rubber Co. to handle their goods for Buffalo and immediate vicinity.

Racyle has new Superintendent.

The Racyle factory, at Middletown, Ohio, has a new superintendent. Benjamin F. Hare is the man, and he is already hard at it getting out the 1902 model of the two wheeler that "is a bicycle, except that it's different." Mr. Hare comes from Shelby, Ohio, where he made a record for himself as superintendent of the Shelby Cycle Manufacturing Company.

The Kokomo Rubber Company, Kokomo, Ind., has increased its capital to \$200,000.

SEPTEMBER'S STATISTICS

They Show Another Decline in Exports—
Gains Offset by Unexpected Losses.

September of 1900 was not a particularly healthy month in the matter of cycle exports, but at that it was \$1,500 worth healthier than September of this year.

As was the case in August, Great Britain and the Continental countries, Germany excepted, increased their purchases, but again Japan, Africa and the Philippines, and, of course, Argentina, fell away and brought the month's total below the record of the corresponding month of the previous year—that is to say, both gains and losses occurred where they were least expected.

Of the gains, those in the United Kingdom and in China are the most noteworthy, and with Africa bring the totals for the nine months safely above last year's records. France also passes last season's total, and while Mexico and the Central American and West Indian countries also show promising increases, Brazil and the other South American nations have apparently been permitted to wean themselves away.

The record in detail follows:

Exported to.	September.		Nine months ending Sept.		
	1900.	1901.	1899.	1900.	1901.
	Values	Values	Values	Values	Values
United Kingdom	\$18,558	\$29,462	\$626,005	\$393,104	\$412,831
France	1,511	4,993	399,681	174,391	175,677
Germany	5,840	5,577	731,669	315,710	175,933
Other Europe	10,282	17,417	817,233	585,582	437,521
British North America	8,737	6,634	510,300	345,350	276,027
Central American States and British Honduras	556	508	4,143	1,600	4,242
Mexico	755	1,144	35,537	11,516	17,780
Santo Domingo	80	46	298	232	802
Cuba	521	1,345	64,504	63,898	9,588
*Porto Rico	—	—	2,311	1,461	—
Other West Indies and Bermuda	2,924	3,164	48,990	35,675	38,055
Argentina	6,759	218	232,518	68,297	4,980
Brazil	1,041	618	26,393	15,392	5,046
Colombia	21	70	6,790	3,421	645
Other South America	2,262	2,516	49,938	32,967	22,621
Chinese Empire	—	3,462	19,423	17,966	46,293
British East Indies	6,020	6,606	93,841	48,567	45,326
Hong Kong	661	440	7,554	6,446	3,253
Japan	30,898	15,317	86,626	213,079	189,249
British Australasia	15,286	18,278	173,001	169,468	144,570
*Hawaii	—	—	37,019	32,473	—
Philippine Islands	3,359	130	1,151	43,004	26,360
Other Asia and Oceania	734	2,106	35,548	21,266	16,849
Africa	12,801	8,085	136,607	46,101	61,125
Other countries	60	—	274	417	282
Totals	129,666	128,136	4,147,354	2,647,383	2,115,055

*No longer included in statistics.

Decides Bicycles are Necessities.

Press despatches from Lansing report that the Michigan Supreme Court has handed down a decision affirming judgment secured by Anna Lee against the city of Port Huron for injuries in a fall caused by the defective condition of a walk. By its decision the court recognizes that the bicycle has become indispensable to many persons, and that its use at all times is rendered impracticable unless it may be ridden on the sidewalks under proper restriction.

Profits of Britain's Biggest Makers.

After providing for debenture interest, directors' fees, depreciation and ample reserves for bad and doubtful debts, England's largest cycle manufacturers, Rudge-Whitworth, show a net profit for the year ending August 31 of £10,099 14s. 10d. After adding to this the sum of £7,235 10s. 8d. brought forward from last year, there is an available balance of £17,335 5s. 6d., which the directors recommended should be appropriated as follows: To pay a dividend at the rate of 6 per cent per annum on the preference shares, £4,512 9s. 6d.; to pay a dividend at the rate of 10 per cent per annum, free of income tax, on the ordinary shares, £9,491 2s.; to carry forward to next year, £3,331 14s.—£17,335 5s. 6d. The directors consider the year's results satisfactory, having regard to the continuance of the war in South Africa, and to losses caused by the disastrous floods at Coventry on December 31, 1900, and the fire at the company's Glasgow premises in March last.

By the Pound.

Carthage, Mo., has received its first motor bicycle. It is described by the local paper as resembling the old fashioned velocipede and costing \$1 per pound, or \$250.

STARLEY'S DEMISE

Man who Made the Safety Bicycle Marketable Passes Away in Coventry.

London, Oct. 29.—J. K. Starley, the inventor of the safety bicycle, died at Coventry to-day.

John Kemp Starley was not in the fullest sense the inventor of the safety bicycle, but he was the man who brought out the first chain geared rear driven safety and who made it a practical and commercial success. His Rover safety, produced in 1885, has well been described as the bicycle that "set the fashion to the world"; in the earlier days all safeties were termed as of the "Rover-type." In 1885 he was a member of the firm of Starley & Sutton, which later became J. K. Starley & Co. and still later the Rover Cycle Co. Mr. Starley came of a family of inventors who have left their impress on the cycle trade, and who have always been identified with the fame of Coventry. Several of the Starley family have served as mayors of the city, and a monument to one of them, James, was erected there in 1884 by the cycle trade, of which Coventry was long the hub of the universe.

Motor Bicycles Lead the Vote.

For the past three months, Cycling, the London publication which still remains the riders' paper par excellence, has been conducting a mail vote in an effort to discover what innovations or new features appeal most strongly to the cycling public, and would meet with the warmest welcome.

The result has just been announced and cannot but prove of interest to the trade of both hemispheres. It indicates clearly that cyclists everywhere are now disposed to hail the inventions that contribute to their comfort. The vote given motor bicycles—the bicycles that rob hills and head winds of their terrors—and to the once derided spring frames is strong evidence of the fact.

The following is the result of the vote in detail:

Motor bicycles.....	9,588 votes.
Spring frame bicycles.....	8,478 "
Lighter bicycles.....	7,898 "
Variable speed gears.....	7,362 "
Cross frames.....	5,784 "

Suits Settled out of Court.

The suit of A. B. Curtis vs. the American Bicycle Co. for infringement of the former's pedal rubber patent was this week settled out of court. The settlement carries with it a payment of back royalty and the taking out of a license. The Automobile and Cycle Parts Co. has also recognized the patent and been granted a license. The White Sewing Machine Co., which formerly made pedals, has likewise settled with Curtis.

Walter M. Towne, one of the trade's veteran travellers, has engaged with the Bar-west Coaster Brake Company. He will cover New-England.

Injured by his own Invention.

In some manner yet to be explained a severe accident occurred last week to a motor bicycle built by a Torrington (Conn.) man, and caused injuries to the rider that may prove fatal. Cornelius H. Cantillion was the unfortunate man, and he had expended years of labor and experiment on the machine. Having completed it, he started for a ride last week. But he had only gone a short distance when an explosion took place, throwing Cantillion and inflicting severe injuries.

NEW TIRE NEEDED

Motor Bicycle Makes it Necessary or at Anyrate Highly Desirable.

By general admission muddy or wet streets or roads are the two things that the motor cyclist has to fear. Under ordinary conditions the machine with a motor attached is just as easily handled as one without it, and where one can go the other can follow without difficulty.

But when the motor bicycle's roadway is slippery, then is the time to look out for squalls. As one rider expressed it, "I'm not afraid of anything as long as I have a solid bottom, but when this goes and it is impossible to balance the machine, then I throw up my hands."

Under all other circumstances the motor bicycle asks no favors. No dust can be too deep, no sand too shifting for it. On side-paths it will more than hold its own; there is no pedalling to disturb the steering, and the front wheel is kept as straight as a die without the slightest difficulty. Even on rutty roads there is no fault to find with it, a good rider being able to steer it in and out of the ruts with considerable facility.

Nor does it fail before a little wet, a little mud. It is just as stable under such conditions as an ordinary bicycle; it is only necessary to steer a straight course, and an even keel will be preserved without trouble. It is only when the mud gets deep that it matters much.

At first glance this obvious weakness is a very great drawback. It is not sufficient to say that no one need ride a motor bicycle on very wet or muddy roads; that in heavy rain storms or immediately after them the proper place for a motor bicycle is in the house or stable. Occasions will arise when it is not possible to take this course. They will be of rare occurrence, of course, but no one likes to reflect that there will be times when the bicycle is utterly useless.

Obviously, a way out of the dilemma should be found. Some way should be devised of delivering the machine from the tender mercies of such a condition, of removing the tendency to slip, or at least of reducing it to a minimum.

There is every reason to believe that a solution is not very difficult of attainment. A non-slipping tire is all that is required, and while that is not such an easy proposition as it may appear to be, it is certainly not an unsolvable one. Non-slippers have been devised for the regulation bicycle, and with no inconsiderable success. It is true that their increased cost and weight, combined with a doubt as to their necessity, so seldom is slipping a problem that must be reckoned with, prevented their entering into extensive use. But that does not deny them merit.

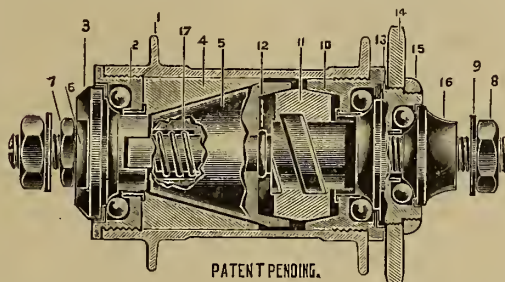
Talk with motocyclists who have given the subject considerable attention shows that they believe that non-slipping motor bicycle tires can be made; and, furthermore,

that they will make the machine a stable and reliable one under all conditions of road and weather. The matter is one that is worth some attention.

"Insides" of the Forsyth.

To perceive the great advance that has taken place in coaster brake design and construction it is only necessary to place one of the early devices alongside of some of the best productions of to-day.

The progress made has not all been in the direction of simplicity, reliability and durability; positiveness, ease of running, improvement in appearance and a better, that is, a simpler action, have also had attention. The crudeness, the shortcomings, the objectionable features of the early devices have



been attacked and with a marked degree of success.

In the Forsyth coaster brake, which has just been placed on the market by the Forsyth Manufacturing Company, Buffalo, N. Y., is found an exemplification of this progress. Neither in outward appearance nor in action does the device suggest anything but the regulation method of gearing. There is no backlash, no marked interval between the application of power and its taking hold, no feeling of insecurity or of delay in changing from forward to back pedalling, or vice versa.

The construction of the Forsyth device will be understood by examination of the cut. In driving the sprocket No. 14 rotates forward and carries with it the driver No. 13; the thread on driver causes nut No. 11 to move to the right and into locking engagement with the taper of hub case No. 10, which, being secured to hub shell No. 1, causes the wheel to revolve forward without other friction than that of its bearings.

To coast, the pedals are held against rotating; the momentum of hub shell No. 1 causes nut No. 11, by reason of being in locking engagement with taper of hub case No. 10, to move to the left and into locking engagement with taper of braking plug No. 5, the hub shell, being thereby released from all friction, coasts absolutely free on its bearings.

In action of braking; by back pressure on pedals the driver No. 13 rotates backward, moving nut No. 11 still further to the left, carrying with it braking plug No. 5, with which it is already in locking engagement, away from shoulder on axle No. 12 and into friction engagement with braking shoe No. 4 and compressing spring No. 17. When back pressure on pedals is removed spring No. 17 immediately carries braking plug No. 5 out of engagement with braking shoe No. 4, returning it to shoulder on axle No. 12, when the brake is in its original coasting position.

MAKING STEEL BALLS

The Processes Employed and the Startling Effect They Have had on Prices.

The day has long since passed when the steel balls used for bearings were regarded as wonderful pieces of mechanism, produced by mysterious and intricate processes and performing functions of almost incalculable importance.

That was years ago, when the little spheres brought 6 and 8 cents apiece at retail. Since then they have dropped to almost nothing. They are manufactured by the million, and used on hundreds of articles other than bicycles. No one gives them a second thought or regards them as anything out of the ordinary. They have taken their place in the world's economy, and that is all there is to it.

Nevertheless, the various processes which the balls go through in the course of manufacture are extremely interesting.

The blank from which they are made is sometimes drop forged and sometimes cut out of a solid bar of steel by an automatic lathe. The blank is a steel ball larger than the diameter of the finished ball, and with a little nib on each side left by the cutting out machine. No attempt is made to remove these nibs before the blanks are put into a machine which gives the ball its first rough grinding. With a number of other balls it is fed into the rough grinding machine, where it starts on its way to a perfect sphere. The machine consists of a grinding wheel, which revolves horizontally on its vertical shaft.

The blanks are held in the V-shaped channel which runs around what is known as the groove disk, which is above the grinding wheel. The ball blanks are placed in this open bottom V groove and held there by the holding down ring of the machine. This gives the blanks three points of contact, so that the bottom line of the blanks projects a very small distance below the bottom face of the circular rim and circular disk. The grinding wheel, which is below the ring, is so supported that it can be fed up by a delicate device, and it is so arranged that the ball will travel over the entire face of the wheel.

After the rough balls have been placed in the machine the grinding wheel is fed up just to touch them. At first the sparks come with spits and irregularity, but after a while there is a steady stream of sparks, which indicates that the balls have been ground to spheres.

The balls are measured in the course of the process by micrometers, and when the grinder finds that the rough balls have been ground to within one-thousandth of an inch of the polished and finished ball he sends them to the inspector's table, where they are examined for any imperfections. The perfect balls are then taken to the polishing machine; where they are placed in a groove similar to that in the grinding machine, and there polished with oil and fine emery.

The balls are then hardened by being heated to the proper temperature and suddenly dropped in oil.

"The NATIONAL is Easily the Leading Wheel."

Council Bluffs, Iowa, Oct. 14, 1901.

We have sold Nationals this year, and all have given good satisfaction. The



National is easily the leading Wheel in this locality at the present time. It has not gained this enviable reputation by yellow advertising, but by merit and as a representative of honest goods. We believe it is the universal verdict of all riders who have purchased Nationals that they have at length obtained a bicycle that gives them perfect satisfaction.

We shall most certainly sell National wheels next year, believing we could not take hold of a more popular and better line.

Respectfully,

THE CYCLERY.

**If you want to sell a Bicycle that will give your Customers
Perfect Satisfaction, write us.**

NATIONAL CYCLE MANUFACTURING COMPANY,

1602-1640 MADISON AVENUE, BAY CITY, MICHIGAN.

What are You in Business for—

for your health or to make money and build up your reputation?

You cannot do the latter without selling the most meritorious goods you are able to lay your hands on—goods that will go out and give satisfaction and bring your customer back another time, instead of sending him to your competitor.

FISK TIRES will make second sales.

They please the dealer by pleasing the rider.

BRANCHES:

SPRINGFIELD; NEW YORK, 99 Chambers St.; SYRACUSE; BUFFALO
DETROIT; CHICAGO, 54 State St.; SAN FRANCISCO, The Phil B. Bekeart
Co., 114 Second St.

REPAIR DEPOTS:

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1015 Arch St., PHILADELPHIA, PA.

FISK RUBBER COMPANY

CHICOPEE FALLS, MASS.

THE BICYCLING WORLD

FOUNDED 1877
and MOTORCYCLE REVIEW

In which is Incorporated
the "The Wheel" and the "American Cyclist."

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Members of the trade are invited and are at all times welcome to make our office their headquarters while in New York; our facilities and information will be at their command.

To Facilitate Matters Our Patrons Should

Address us at P. O. Box 649.

NEW YORK, OCTOBER 31, 1901.

Comfort and More of it.

To the wheelman who remembers the day of solid tires and of weights running well over the half century mark the present models seem to be everything that could be desired.

They are ridden faster and with less exertion than their predecessors. In point of comfort, even of luxuriousness, in the matter of giving the rider the proper position, in the conserving of strength, any comparison made must tell heavily in favor of the machines of the present. A statement of fact such as this, rather than an assertion, needs no proof.

Nevertheless, not only is it charged that pleasure riding has diminished in popularity because it is too hard work to ride, but there is reason to believe that there is considerable truth in the assertion.

"Scratch a Russian and find a Tartar," asserted an enemy of the Muscovites. Similarly, it is only necessary to ask an old bicycle rider, particularly if the rider is of the fair sex, why he or she stopped cycling, to

be told that the fact of its being hard work had a great deal to do with it. Not infrequently it is freely admitted that this is the head and front of the cycle's offending.

"The development of the bicycle along racing lines, the ignoring of all that made for comfort, is responsible for the decay of cycling," said an ex-manufacturer to us not long ago.

"Instead of building bicycles in which comfort was the great desideratum, machines designed as far as possible to compensate for the vileness of the ordinary road, machines constructed with regard to the fact that the great majority of riders were not 'scorchers'—instead of doing this the racetrack was taken as the type of road, the racing man as the type of rider. Is it any wonder that a day of reckoning came?"

Other observers sing a song constructed on somewhat similar lines.

They say that while the natural tendency of riders was to demand more and more of it each season, they either found no improvement taking place or else noted an actual retrocession.

It is pointed out that half a dozen years ago the cycle reached its pinnacle; that since then the regulation chain machine has remained the same, or, rather, since then tire sizes have decreased, gears have increased, weights have been added to; that, in short, the rider of to-day has to work harder and is shaken up more than he was in 1895.

When against this state of affairs is placed the undoubted fact that the average rider demands a distinct advance every few years, and quits riding if he does not get it, one cause of the "slump" in pleasure riding will be apparent.

It will scarcely be disputed at this late day that what is wanted by most pleasure riders is less work and more comfort.

The cushion frame, the tire of larger diameter, the spring saddle will do something toward attaining the latter. Lower gears, the coaster brake, the motor, to take them in inverse order, will do everything in the former respect.

This does not exhaust the list, however.

About Motor Bicycles.

It must be pretty evident by this time that the future of the motor bicycle depends to a very considerable extent upon its appearance and the impression it makes on the public at first sight.

Anything very different from the ordinary bicycle is pretty certain to repel riders, to

cause them to shake their heads and conclude that they do not want to invest in the new machine. There is a feeling abroad that the motor bicycle must be very complicated; and the sight of a great deal of "machinery," as it is vaguely termed, is almost certain to confirm this belief.

It is possible that the motor bicycle of the future will be complicated, loaded down with "machinery," and a thing of weight and bulk.

It may even be that the turning to a smaller and lighter motor, the attempt to reduce the extra parts to the smallest possible compass, even to hide them wherever this can be accomplished, is all wrong. It may be a stopping at a half way house, a divergence into paths that lead away from instead of toward the goal, and that sooner or later the steps will be retraced, the true path followed; and this after valuable time has been lost.

All this may happen. But even if we were sure that such would be the case, that light motors were a mistake, prudence would still dictate the following of the course referred to.

For it is indubitable that the public will take more readily to such machines than to the big ones, in spite of the fact that the latter are so much more powerful. It is not the matter of price alone that actuates them, although this is an item of no inconsiderable importance. It is the appearance of the big motors that frightens them, the thought of what would happen in case of accident, of the immense labor connected with handling such machines, of the increased difficulty—as compared with the light motor bicycle—of storing them. All these influences are at work, and add to the prejudice first entertained.

The big motor bicycles, with motors of sufficient power to go anywhere, at any speed, will always find admirers and purchasers.

But they will be limited in number. For every purchaser of this kind there will be half a dozen who will choose the lighter and cheaper and sightlier machine, the machine that will differ but slightly from the pedal-propelled bicycle which almost universal use has made familiar.

It is a source of gratification, therefore, to note the number of machines of this class that will be placed on the 1902 market.

Designers have read the handwriting on the wall, have seen that even this early the demand for refinement has set in. They have set themselves the task of producing machines that are motor bicycles instead of

being either bicycles with motors attached or motors with bicycles attached.

In short, the winning card is a machine in which the bicycle and the motor are completely and harmoniously blended.

Light on a Bugaboo.

After many years an Englishman has answered the oft-asked question:

"Why, if British arguments are true, was the English bicycle able to dominate the American market when the same tariff then existed that exists to-day?"

Mr. A. J. Wilson, who undertakes the reply, finds the question so "extremely simple" that he cannot conceive that it was not answered long ago.

The "obvious reason," according to Mr. Wilson, is that at the time the English bicycle dominated our market "Americans had not learned how to make bicycles at all; when the Americans learned how to copy the English bicycle it naturally followed that the American bicycle, without being better than or as good as the English, could be produced and sold in America at a lower price than the British bicycle, which had to pay 45 per cent ad valorem duty upon entering America. In other words, when there were no American bicycles in existence the Americans had to buy English bicycles and to pay 45 per cent to their government for the privilege; it therefore came to be worth while for American mechanics to learn how to copy the English bicycle, and to sell the copy to the American public, who naturally preferred to buy such machines so as to evade paying the 45 per cent tax to their government."

"Does it not stand to reason that of two articles—we will say equally good—the one which pays no tax will be bought in preference to the one which has 45 per cent added to its price?" queries Mr. Wilson in return. "Will the *Bicycling World* assert that the American public will rather pay \$145 for a taxed bicycle when it can get an untaxed bicycle for \$100?"

The *Bicycling World* will assert nothing of the sort; both questions may be answered with an emphatic "No!" keeping ever in mind that the two articles are, as assumed, "equally good." But it is a matter of history that the American public did pay \$10 to \$15 more for the "taxed bicycle" than for the untaxed one, so long as they believed the former to be worth it.

Mr. Wilson's questions, however, do not fit into the discussion. Like nearly all his countrymen, he dodges or forgets the facts

in the case—i. e., that on the two occasions when the English bicycle was a factor in the American market its price averaged \$10 to \$15 higher than the domestic product. This differential held true when the English article came into and when it went out of the American market; the 45 per cent duty was never added to its selling price. American prices were not reduced until long after the imported bicycle had departed these shores, and had nothing to do with the failure of the English bicycle to hold its popularity. When American riders purchased the foreign product they at all times paid more for it than for the "home grown" article. When the Democratic party made its fight against the McKinley tariff the fact that Victor bicycles were actually selling at a lower price abroad than at home was one of its campaign arguments—a condition that exists to-day in the steel billet trade.

These are the facts in the case, dispassionately stated. They should make clear to any one open to conviction that the tariff played no part in the expulsion and exclusion of the British bicycle from this part of the world. Whether Mr. Wilson will be convinced is another matter, since he has become a high priest of protective tariff.

The belief that the American bicycle was as good as or better than the imported article was the real reason; but, of course, no patriotic foreigner is expected to share the belief. Two peoples may honestly differ on this point, but there is no substantial ground for a quibble over the tariff situation. It served the cycle trade no good purpose in former years; it is as useless to-day.

Having settled the tariff controversy to his satisfaction, Mr. Wilson turns questioner and puts this query: "How is it that if the American bicycle is better than, or at least equal to, the British article, the American bicycle has failed to establish itself on the British market?"

The question is, however, beyond us. There are many things English which we do not understand. This is one of them. We might point to the fact that our cycle exports to the United Kingdom have increased over last year's record and rest our case on that; we might suggest that the reason the American bicycle is not as popular in England as might be is the same that possibly had to do with the fall of the English bicycle in this country—that American manufacturers, generally speaking, do not defer sufficiently to English tastes and inclinations and demands. We might suggest other factors, but they would prove nothing and serve no purpose.

Saddle Situation Altered.

In former days the saddle was the part above all others regarding which riders felt themselves in duty bound to disagree. It was seldom that two riders thought alike on this subject. They might be easy to suit in other respects, but when it came to saddles the dealer knew he was in for trouble.

Consistency was the last thing thought of. The comfortable spring saddle that was popular one year might be altogether displaced a little later; a hard seat, void of comfort as well as springs, and of a character to lead one to wonder why it was ever looked at a second time, was likely to replace it and be the recipient of more extravagant laudation than was ever bestowed on its predecessor. But no one ever attempted to explain such changes, such a shifting of public favor.

Sometimes saddles ran to peaks—hard or soft, pronounced or otherwise—only to be succeeded by the peakless era. Springs, pads, lacings, tops of leather, of rattan, of celluloid, of aluminum, even of sheet steel, wide bases, narrow bases, short and long saddles, high and low ones—all succeeded in rapid and bewildering succession, and apparently without rhyme or reason.

Nowadays riders take their saddles as they take the remainder of the machine. There are a few styles that are looked upon with favor, and there may be a difference of opinion as to which is the preferable one. But the trade no longer has the same trouble as of old to meet the riders' views on this subject.

It is remarkable how motor bicycle designers in England follow the beaten track. Of the score or more of motor bicycles that have been brought out in that country, the "Minerva type," as it may be designated for want of a better term, is the great favorite. Probably half of the machines follow the Minerva design, which is nothing more than to place the engine under the main frame tube, i. e., the tube running from the crank hanger to the lower head. In this position the engine appears to be without adequate support, but the favor which this design has met with would seem to indicate that it does not give trouble on this account.

An alleged cycling journal makes the highly sensational statement that "high grades have come to stay." The paper in question is not published in the Fiji Islands, but in the United States, and bears date October, 1901.

ENGLAND'S FIRST

Motorcycle Club in London and Spelled
M-o-t-o-cycle, too—Other Matters.

London, October 22.—London now has a motorcycle club. It was organized last week, some thirty motocyclists answering the call. Its title is the Motorcycle Club. It should help to develop the pastime, as a fairly strong committee has been elected. Some effort was at first made to induce those present to amalgamate with the English Motor Car Club, about twenty-six members of which are motocyclists, but the meeting would have none of it. The club is to be run on social lines, and there is not much likelihood of any racing being in its programme other than occasional hill climbing competitions, which can hardly be said to come under the category of motorcycle racing as the term is usually understood.

I saw a very queer motorcycle yesterday, which machine is the outcome of some experiments carried out by the Twin Wheel Cycle Company (Limited). The Twin Wheel cycle follows the lines of the ordinary rear driving safety, but it is fitted with two wheels at the back, the said wheels being very close together and mounted upon a through axle, to which they are keyed, no balance gear being employed. Naturally, the machine will not turn corners without a certain amount of "dragging" action, unless it be ridden at sufficient speed to allow it to be leaned over so that the outer wheel is clear of the ground. The machine is supposed to prevent side slip, but as a bicycle always slips in such a manner as to throw the rider to the inside of any curve it may be taking at the time, it is very hard to see how the outer wheel, which is, under the circumstances named, off the ground, can prevent a fall. But this is not the question at present and does not affect the machine from the motor point of view. The wheel base is long, and thus the motor of about one horse power can be placed behind the down tube of the frame and the crank bracket. An ordinary pattern, large toothed wheel runs upon a countershaft, which in turn is geared by means of a chain to the centre of the shaft carrying the two driving wheels. A second chain is carried forward to the crank axle, by means of which the machine is started. The extreme length of the frame leaves plenty of room for the motor and all the working parts, but I fancy that the twin wheel arrangement will not be found satisfactory in practice. I do not think that the company has done much trade with their pedal propelled machine, and I should say that the motor device will be still more difficult to sell.

Messrs. Gamage (Limited) are now showing one or two motor bicycles made in your

country, and so far as the arrangement of the engines and the levers is concerned the machines appear all right. The only unfavorable remarks I have heard respecting them have had reference to the front fork blades, which are single, and certainly do not seem to be of a heavy gauge. Here it is customary to employ very heavy gauge tubing for the construction of the blades of forks of the single pattern, while more often double forks, as used upon triplets and multicycles generally, are employed for motorcycles. I do not think that the front fork of a motorcycle can possibly be made too secure, as it is exposed to very great strain, especially when the machine is driven at high speeds over our rough and bumpy roads. This point is well worth noting by American makers who are thinking of catering for the English market in the matter of motorcycles.

The correct position for the motor on a motor bicycle is the subject which is receiving most attention at the present moment, and it must be admitted that opinions seem to vary very much. The majority of makers are placing the engine low down, a few are adopting somewhat more central position, while yet another school are putting the engine high up. There is a great deal in the contention of the adherents of the latter plan, who maintain that the high centre of gravity prevents side slip, as the weight of the motor is naturally thrown to the outside of any turn which the machine may be taking by the action of centrifugal force, and that the high position gives increased power to this action, and so tends to keep the machine more upright. This may be the case, but it must also be remembered that the turning of corners will be more difficult and will strain the arms far more. However, this may be better than risk of side slip. I have been down very heavily once, and I do not want to try the experiment again.

Few motor bicycles are now to be seen in the streets of London, and now that the fogs have commenced and the roads are, as a consequence, somewhat greasy, it is not likely that many such machines will be used in the metropolis till next year. Motor tricycles are, however, very common, especially for commercial travellers engaged in the hardware trade, where a top hat is not a sine qua non.

How Tools are Injured.

Mechanics make a great mistake in stamping their names with a steel stamp on their fine tools. Be it done ever so carefully, it is sure to spring or throw out of true the tool so stamped. Fully 95 per cent. of the tools returned to us with the information that they are not true, says a fine tool maker, have been stamped with a steel stamp. He recommends the use of etching fluid instead.

"Motocycles and How to Manage Them"; 126 pages, 41 illustrations; cloth bound. \$1. The Goodman Co., Box 649, New York. ***

SALESMAN'S WILL

And how it Served its Purpose and Sold
His Saddle.

"Who in the world rides that saddle?" inquired the Bicycling World man, pointing contemptuously in the direction of a machine fitted with a springless, aluminum-topped saddle. "I thought that the day for such freaks had passed."

"That saddle?" repeated the dealer addressed. "Why, that is my machine and my saddle. There's nothing at all the matter with it. I like it first rate; it is perfectly comfortable, and it never stretches or loses its shape."

"I'll tell you how I came to adopt it," he continued. "One day a drummer came into the store, and after I had bought a lot of stuff from him he brought out this saddle. I laughed at him at first, and told him that no one would ever buy such a saddle as that. The day for foolish buying had gone by, I said, and he need not think he could catch me on anything of that kind. I had been bitten too often, had too much unsalable stuff cluttering up my shelves."

"Who asked you to buy it?" the man replied. "I don't want to sell it to you; I'm going to give it to you, and if you don't like it you can throw it out in the street for all I care."

"Of course, it would never do to look a gift horse in the mouth, and although I did not want the saddle, and was tempted to tell the man so, I refrained. So he went away, leaving the saddle on the counter. There it stayed for several weeks. Then, being such a conspicuous object, it stared me in the face, until one day I decided to see what it was like. So I put it on my machine and began to ride it."

"Now comes the funny part of it. I liked the saddle as soon as I got on it, and the longer I used it the better pleased I was with it. So I kept it on my machine. Even then, however, I had no thought of selling the saddle. But one or two of my customers noticed that I was using this one, and they began to ask me about it. Finally, one of them asked to try it, and he liked it so well that he gave me an order for one. Two or three others followed his example, and I now have about half a dozen of them out."

"It's only a fad, of course. But it just shows what a salesman can do if he is 'foxy.' This one took the independent tack and caught me, where he would have 'fallen down' completely if he had tried to do business with me."

Points on Credit.

Customer—How'd do? Have you any time to spare this morning?

Tradesman—Certainly; plenty of it.

Customer—Glad to hear it. I'd like to have thirty days more on that bill I owe you.—(Business.)

THE OPPORTUNITY AND THE MAN

The opportunity exists and is an open one; it simply awaits the man.

The man also exists, but he is keeping under cover. He sees the opportunity, and why he should wait is best known to himself.

WHEN THE MAN SEIZES THE OPPORTUNITY

it will place him at the very forefront of the cycle trade. Fame and fortune are sure to follow him.

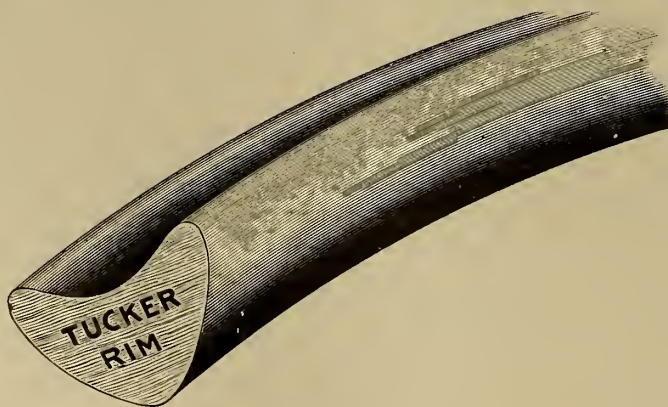
The opportunity is this: To make the Morrowized bicycle his standard model. Some cycle manufacturer is certain to make the move sooner or later. The one who makes it soonest is the one who will reap the greatest glory and richest reward. Why not be that one? Think it over and decide quickly. There are other thinkers. It is the man who follows thought with action who will win out in this instance.

With the MORROW Coaster Brake no risks are incurred. It is true and tried—a known quantity, and so well and widely known that it actually aids the sale of the bicycle to which it is applied.

ECLIPSE MANUFACTURING COMPANY,

ELMIRA N. Y.

.. TUCKER RIMS ..



THE RIMS YOU OUGHT TO HAVE AT THE PRICE YOU OUGHT TO PAY.

LICENSED MANUFACTURERS OF C & J RIMS.

QUOTATIONS ON REQUEST.

C. J. Iven & Co., Sole Sales Agents, Rochester, N. Y.

TUCKER BICYCLE WOODWORK CO., URBANA, OHIO.

THE TARIFF BUGABOO

Dealer who Sold Both American and British Bicycles Knocks it Down.

He fell into a discussion of English bicycles and as naturally the talk led to the disinclination or inability of the Englishmen to see that the American tariff had nothing to do with the failure of the imported bicycle to hold its ground in this country. One of the "old guard" who had handled bicycles in the earlier days when Ridges, New Rapids, Premiers and other British bicycles were as well known as Columbias, Champions and Victors, was most emphatic in his expression of opinions.

"Do you know," he continued, "this eternal war of words about the tariff and the great influence it had on the sale of bicycles in this country has always seemed to me to be the merest drivel? There never was any room for an argument. Two disinterested men, provided they were also unprejudiced, could have settled the matter to their entire satisfaction in five minutes. Instead of doing this, however, there has been all sorts of wild talk indulged in, that coming from one side being disingenuous to a degree.

"The tariff on bicycles imported into this country has had just as much to do with their sale and with their disappearance as it had to with the death of Julius Caesar—not one whit more.

"Now, that may appear to be a strong statement, but it is almost literally true. Having bought and ridden English wheels, and later sold them in competition with and alongside of American ones, I ought to know something about the matter. Without being egotistical, I assert that I do know something about it, and with your kind permission I will say it.

"It is a fact—the plain, unvarnished truth—that American riders bought and rode, and then ceased to buy and ride, English bicycles without the question of the tariff, hardly even the matter of cost, entering their minds. When they rode machines from across the water they did so because they believed them to be better than any that could be procured of home manufacture; and when in the course of time the conditions were reversed, and they considered the American machines as good as or better than the English ones, they took just the opposite course. All this took place, mind you, without the matter of cost to them playing the slightest part.

"The best way to illustrate my meaning is to state my own case, both before and after I entered the trade. In this way I will show that I am talking by the book, and not from hearsay.

"In 1886 I had occasion to buy a new bicycle—a high wheel. I hesitated between a Columbia Light Roadster and an English machine, the New Rapid, the latter being sold by Sam Clark, of Baltimore. Now, why

did I finally choose the latter? Simply because I thought it was a little better than the Columbia or any other American machine. Did the price have anything to do with it? Not a thing. It cost me just \$10 more than the American wheel would have done—\$137.50 instead of \$127.50—and I paid it without a murmur. I have the receipted bill for it to this day, and it was only a few months ago that I came across it among my papers.

"I rode my New Rapid during 1886 and 1887, and in 1888 was in the market for a new bicycle. Again I looked over the field, and this time I decided the other way—to buy an American bicycle. This was a Victor, and, as before, the die was cast in its favor by one consideration—that of excellence.

"I believed the Victor to be superior to any English machine sold in this country. It was equal to the latter in design and superior in point of running. The price was \$10 less than an English machine, but that had nothing to do with it. I had acquired the scorching habit, and was spending so much money on cycling that \$10 would have been a mere fleabite to me.

"Now the tariff comes in, or rather it does not come in. In both of these years the tariff was the same—35 per cent. Was that 35 per cent added to the retail cost of the English bicycle? Not a bit of it. But \$10, or less than 10 per cent, was piled on. Now, I'm not going to attack the assertion that the consumer pays the tax—the duty. Political economy is against me, and I'm not foolish enough to think that I can demolish it. But I will say that in the case of bicycles the consumer paid only a part of the tax—in this instance \$10 worth. Whether the remainder was borne by the exporter or importer, or divided between them, it is not for me to say. One thing is pretty certain—somebody paid it; Uncle Sam got his 35 per cent.

"Now we will go forward a bit. In 1890 the McKinley tariff went into effect. It raised the duty on bicycles from 35 to 45 per cent. But before that took place the importation of English high wheels had received its death blow—that is, while the duty still remained at 35 per cent.

"American riders came to the same conclusion that I did—or perhaps it would be less egotistical to say that I chimed in with nearly everybody else, and decided that the American makers had learned their lesson and managed to turn out better bicycles than their one-time superiors. Consequently there was no market for English high wheels. Nearly all the English branch stores were closed, and agents in this country ceased to handle English machines.

"In the mean time the safety had been coming in. Even in this country comparatively few high wheels were manufactured after 1889. By that year all our makers were turning out safeties—of a kind.

"In common with many other riders, I regarded them as a very poor kind. Consequently when, in 1891, I reluctantly gave up

the high wheel I made choice of an English safety—this time a Premier Kitten. By this time I had embarked in the trade, and was selling both American and English bicycles. In the fall of 1890 I won a first grade American bicycle in a race; instead of riding it, however, I held it over until spring and then traded it for the Premier referred to, paying something to boot, of course. I rode this machine for two years, and in 1893 came to the parting of the ways again.

"Was my new machine to be English or American? The answer was in favor of the latter, and for the same reason as in 1888. I considered that, after four or five years' efforts, American makers had again come to the front, and were turning out machines superior to those of transatlantic origin. Nor did the price have anything to do with it. The American machine was \$10 cheaper at retail, but that did not affect my decision a particle. It was made entirely on the merits of the case.

"Was I singular in this choice? No. For 1893 witnessed the beginning of the end with English safeties. In previous seasons I had sold many more English machines than American ones; in 1893 the latter went far ahead of the former. After 1893 I ceased to deal in English machines.

"Prices and tariff? In 1889, 1890 and 1891 American safeties, with solid tires, sold at \$135 retail—the best makes, of course. In the same years the best English machines retailed for \$5 and \$10 more, depending on the make. Yet in 1889 and 1890 the 35 per cent tariff was in force, in 1891 the 45 per cent tariff. In other words, while the duty was advanced 10 per cent the price to the rider remained the same.

"Another point: In 1888 and 1889 trade in English bicycles was almost dead here, and the tariff was 35 per cent. In 1890 trade in English safeties began to pick up; in 1891 it assumed considerable proportions; in 1892 it swept the country, the branch stores being reopened, nearly all dealers stocking English machines, English representatives coming over here and selling anything that bore an English name; and some of the owners never got paid for their goods.

"Now, there was the ineffectiveness of the tariff again illustrated: When it was at 35 per cent English trade began to revive; when it was increased to 45 per cent this trade, instead of being choked off, increased largely; and a year later, with the duty still at 45 per cent, it overleaped all bounds, exceeded all previous figures.

"One more proof: With the tariff still at 45 per cent high water mark in English imports was reached, the tide turned, and then ran down to nothing. Doesn't that show that it cut no figure?

"If you want still more proof, if I must pile Pelion on Ossa, here are two more instances: The first shows that the tariff—whether of 35 or 45 or any other per cent—was not absolutely necessary for the preservation of our cycle industry. The second demonstrates that even the tariff did not

(Continued on page 101.)

Mr. Jobber and Mr. Dealer

OUR ELEGANT LINE OF
BICYCLES FOR 1902 IS

NOW READY

Prices Lower Than Ever
Quality "Second to None"

With our new factory covering an acre of ground and our improved facilities we can meet all demands and are the largest independent manufacturers in the west.

Jobbing
Wheels
Our
Specialty

ARNOLD, SCHWINN & CO.

WORLD CYCLES.

945 to 947 North 43rd Ave., CHICAGO, ILL.

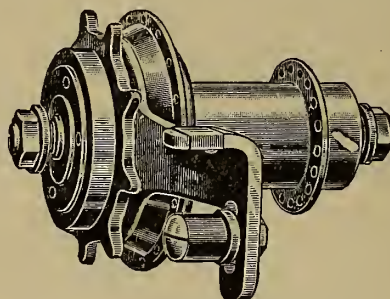


THE MEDAL.

RECEIVED HIGHEST AWARD.

Universal Coaster Brake Company of Buffalo Gets Highest Medal at the Pan-American.

Because of the simplicity of its construction and its superiority over other brakes, the jury of awards found that the Universal brake had fewest parts and most perfect action. There is no lost motion, it is dust and waterproof, is an automatic releasing brake, a tight pedal and a free wheel, absolutely free rear wheel either way, and there is perfect control of the wheel at all times. The appearance hardly indicates the presence of a brake. The brake adds but one pound to the weight of the wheel.



THE MEDAL WINNER.

This medal has been awarded to the Universal Coaster Brake Company of Buffalo. All of the merits mentioned were recognized by the jury of awards. The brakes have been indorsed and used by some of the most extensive manufacturers during the last season.

The Universal Coaster Brake Company has been known only for the last season. Its sales have been very large, and it is now at the head of all manufacturers of coaster brakes. The Universal Coaster Brake Company is making large contracts with the export trade.

The officers and directors of the company are: The Hon. James A. Roberts, president; Henry W. Box, Charles A. Sweet, president of the Third National Bank, John C. Conway, treasurer; C. S. DuMont, vice president, and W. S. Gubelman, secretary.—Buffalo (N. Y.) Express.



What Makes "Life"?

Two bicycles may be turned out of an assembling room apparently as like as two peas in a pod, and yet give entirely different results.

One may be full of "life," that elusive, earnestly desired quality that all riders look for; the other lacking in some little thing that goes to make the difference between an easy and a hard running cycle. But in either case it is impossible to tell what makes the difference, to ascertain what quality is missing in one of the machines, sufficing to write it down a failure. No investigation, no speculation will avail to locate the defect.

This difference in machines is by no means as great as it was in the early days. The improvement that has taken place has brought the great bulk of the bicycles up to a high standard, just as formerly this standard was more difficult of attainment.

Using Coaster Brakes.

Some one has said that to get the best results out of a coaster-brake machine a rider must unlearn the habit acquired while using a fixed gear cycle.

There is undoubtedly much truth in this, but it is not, as some people think, an argument against coaster-brakes. The unlearning is a very easy matter. A rider of ordinary adaptability needs only a score or so of miles on a coaster-brake machine to get the hang of it. He will soon learn to know

when he is pedalling unevenly, and correct his error, while the instinctive back-peddalling that he attempts to do, after the old style, is continued, with the difference that the back-peddalling brake is brought into play.

In fact, this back-peddalling instinct is one of the best things that could be ingrained in the rider. It accomplishes the same end in both the fixed gear and the coaster-brake machine, the only difference being that the foot has to travel a little further before the brake takes hold than would be the case if the machine were a fixed gear one.

To Soften Cast Iron.

Heat to a cherry red, having it lie level in the fire. Then with tongs, put on a piece of brimstone, a little less in size than the hole is to be. This softens the iron entirely through. Let it lie in the fire until slightly cooled, when it is ready to drill.

Abusing the King's English.

London Cycling is authority for the statement that, "free wheeling" having been found too cumbersome, English cyclists now talk of "freeling" a hill. Why "coasting" does not serve the purpose is not explained.

To Lessen Friction in Machinery.

Grind together black lead with four times its weight of tallow. Camphor is sometimes used, seven pounds to the hundred weight.

Humber Plumps for Spring Frames.

For 1902 Humber & Co. are bringing out two patterns of spring frames. One of these deals only with the front forks, which are of the duplex tube variety, the four tubes of the fork sides being fitted with telescoping tubes or pins, fitted rigidly into the upper crown plate, a central column tube also telescoping into the steering socket. The whole device is very neat, and all wear is taken up by specially arranged adjustable collars. Another spring frame consists of a pivotally attached back fork, with telescoping back stays controlled by springs, the front forks being provided at their ends with pivoted levers, on the ends of which the wheel axle is secured, the rearward ends of the levers being provided with tension springs to absorb the shocks. Other improvements consist of using 1/8-inch chains.

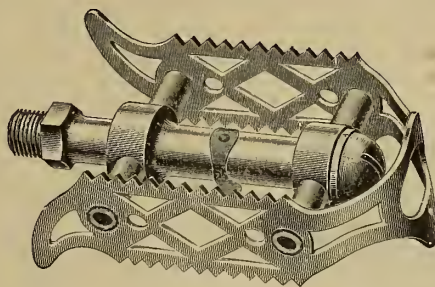
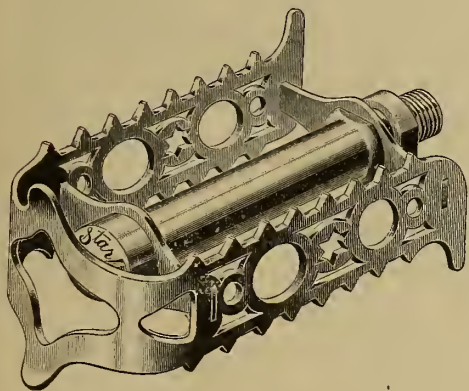
The new patterns range from feather-weight racers with 26-inch wheels and weighing 22 pounds, up to full roadsters, equipped with every requisite of free wheel, back pedalling and hand controlled brakes. The crowns also have been altered, neat flush crowns made out of the solid forging being fitted to some models.

Tempering Liquid.

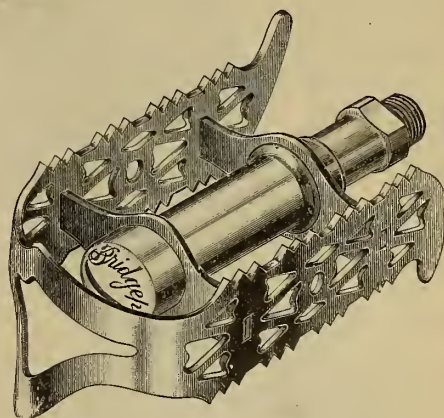
Saltpetre, sal ammoniac and alum, of each two ounces, salt one and one-half pounds, soft water three gallons. Never heat over cherry red; draw no temper.

Star Record Bridgeport

PEDALS



PEDALS



1902 Models
Now Ready.

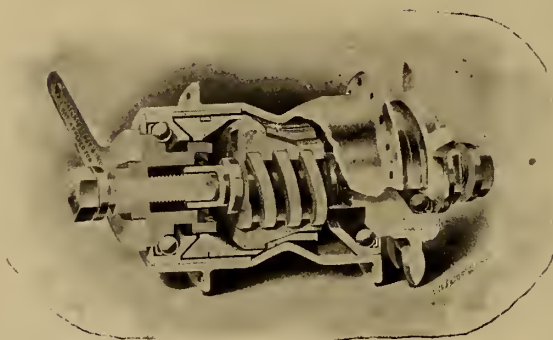
SEND FOR QUOTATIONS.

The Bridgeport Gun Implement Company,

313-317 Broadway, New York.

CINCH Coaster Brake

Perfect Operation.
Simplest Mechanism.
Finest Appearance.
Noiseless Brake.



1902 MODEL.

Absolutely Free Coaster.
Ground Bearings.
No Slipping on Drive
or Brake.
Brake Does Not Stick
or Set.

RUNS A SEASON WITHOUT OILING.

If you want Quality and Durability you want a Cinch.

RIGGS-SPENCER COMPANY,
Manufacturers,
ROCHESTER, N. Y., U. S. A.

C. J. IVEN & CO.,
Exclusive Selling Agents for United States and Canada,
ROCHESTER, N. Y.

THE BICYCLE FITTINGS

MADE BY
THE H. A. MATTHEWS MFG. CO., SEYMOUR, CONN., U. S. A.,

are pronounced by all who have used them to be the most
accurate ever manufactured.

OUR CUPS

are hardened by a special process, and the hardening is
perfect.

We make

STAMPED CONES

(patented) the best in the world.

Estimates from Drawings or Blue Prints furnished.

Give us a trial when you need any

SHEET STEEL STAMPINGS.

Send for Catalog and Price Lists.



FLUSH HEAD SET AND HEAD, 1 1-8 BRANCHES.

The Week's Patents.

684,786. Sprocket Wheel and Chain. James J. Breach, Boston, Mass. Original application filed July 14, 1900. Serial No. 23,599. Divided and this application filed Oct. 18, 1900. Serial No. 33,482. (No model.)

Claim.—1. The combination with a sprocket wheel, of a chain, a tension and take-up device carried by said chain for causing the length of the chain to correspond to the length of the path to be traversed, said sprocket wheel and chain being provided with engaging portions constructed and arranged to intermesh regardless of variations in the pitch of the chain, substantially as described.

684,787. Motorcycle. William Buckley. Sheffield, England. Filed Jan. 26, 1901. Serial No. 44,883. (No model.)

Claim.—1. In a motor driven wheel the combination of an axle support a revoluble member at the axis a dished disk connecting said revoluble member with the rim and a bracket on the axle support carrying a motor within the wheel substantially as and for the purpose described.

684,821. Bicycle. Louis T. Hood, Catlettsburg, Ky. Filed Oct. 12, 1899. Serial No. 733,453. (No model.)

Claim.—A bicycle comprising a frame, a fork pivoted therein, and having a vertical extension, said extension projecting above the frame, a wheel mounted between the forks, a wheel mounted in the frame, a sprocket wheel upon the last named wheel, a crank axle journaled transversely of the frame, a sprocket wheel mounted upon each end of the crank axle, cranks mounted exteriorly of the sprocket wheels, an upright bar clamped upon and connecting the top and bottom bars of the frame, a second crank axle journaled upon the upright bar, a sprocket wheel upon the second named crank axle, cranks mounted upon the ends of the second named crank axle, handles upon the cranks, a chain connecting the sprocket of the second named crank axle with the sprocket of the first named crank axle, a second chain connecting the other sprockets of the first named crank axle with the sprocket of the rear wheel, a seat post pivotally mounted in the frame, a sprocket wheel mounted upon the seat post, a sprocket wheel mounted upon the vertical extension of the front fork, above the frame, and a chain connecting the sprocket wheels of the vertical extension of the front fork and seat post, whereby the bicycle may be steered by a rotary movement of the body of the rider, with the seat post as a pivot.

684,882. Bicycle. John Taylor, Newtown, near Hamilton, New South Wales. Filed Dec. 8, 1900. Serial No. 39,189. (No model.)

Claim.—1. In a bicycle, the combination with the chain and driven sprocket, of a mutilated driving sprocket, drive cranks set at substantially right angles to the toothed portion of the sprocket, and a supplemental or auxiliary wheel forming a guide for the chain, substantially as described.

684,939. Driving Gear for Cycles. Rudolph Kosch, Budapest, Austria-Hungary. Filed Nov. 20, 1900. Serial No. 37,188. (No model.)

Claim.—In combination with the crank axle, a crank thereon having an opening, a ring screwed in said opening, a clutch disk, ball bearings between the ring and the clutch disk, said clutch disk being arranged within the crank, a connection between the crank and the clutch disk, and a screw passing through the crank and exerting pressure centrally upon the end of the crank shaft, substantially as described.

684,941. Saddle for Motorcycles, Etc. Louis

Lallement, Paris, France. Filed July 16, 1900. Serial No. 23,731. (No model.)

Claim.—1. A seat of the character specified which comprises a central supporting strip pivoted at both ends and a plurality of strips each of which is connected at one end to the central supporting strip and is pivoted at its opposite end.

2. A cushion seat which comprises a base or frame provided with bearings or supports, a curved rod or pivot carried by said bearings, and springs the ends of which are formed with eyes pivotally mounted on said rod between the bearings, the other ends of the springs being connected with each other.

684,961. Bicycle Rest. Christian L. Vonderahe, Portland, Ore. Filed Feb. 25, 1901. Serial No. 48,834. (No model.)

Claim.—1. The combination of an extensible foot pivotally attached to the bicycle frame, the extensible portion of such foot being adapted to be locked in place when extended; an arm hingedly attached to the bicycle frame, the hinge pin or rod of such arm turning with the same, and having a projecting portion adapted to operate as a brake; means pivotally connecting the free end of said arm with the extensible foot, and a spring adapted to engage such arm and normally hold the same in uplifted position, substantially as described.

684,997. Spring Hub. Robert A. Matheison, Grand Rapids, Mich. Filed Dec. 26, 1900. Serial No. 41,179. (No model.)

Claim.—1. The combination of heads eccentrically journaled on a fixed axis, a spring attached thereto at one end, and to a fixed support at the other end, and a hub rotative on the heads, substantially as described.

2. The combination of an angularly adjustable sleeve, heads having eccentric bearings on the sleeve, a spring connected to the sleeve and heads, and a hub rotative on the heads, substantially as described.

685,002. Pneumatic Tire for Vehicles. Isaac S. McGiehan, New York, N. Y. Filed April 13, 1901. Serial No. 55,601. (No model.)

Claim.—1. In the manufacture of pneumatic tires the introduction of a fabric having a third or stay thread interwoven diagonal to the selvage edges of said fabric, so that when the fabric is cut on the bias the diagonally woven thread will be at right angles to the line of cut, whereby lateral tubular strain of the tire by distention will be prevented.

685,062. Bicycle Support. Hugh W. Robb, Golden, and John T. Lund, Denver, Col. Filed Feb. 14, 1901. Serial No. 47,333. (No model.)

Claim.—1. The combination with the frame of a bicycle or the like, of a supporting leg pivotally connected thereto and movable in a plane transverse to said frame having its inner end curved and provided with teeth to produce a segmental gear, and a rack bar also supported upon said frame and under the control of the operator, said rack engaging said gear and capable of reciprocation in the plane in which the leg moves; substantially as described.

685,077. Elastic Tire. William F. Williams, London, England. Filed May 13, 1901. Serial No. 59,987. (No model.)

Claim.—1. An elastic tire having imbedded in its thickness cords or strands knotted at frequent intervals and encircling the tire in the circumferential direction of the wheel, there being one or several superposed layers or circles of such knotted cords, so as to resist the stretching of the tire under circumferential driving strains, as described.

685,086. Cycle Propelling Mechanism. George B. H. Austin, Malvern, Victoria.

Filed April 18, 1901. Serial No. 56,463. (No model.)

Claim.—1. In a cycle propelling mechanism, a tube, a saddle carrying plunger slidable in said tube and having a projection, a spring co-operative with said plunger, a bell crank lever having a slot to receive said projection, a driving axle, a clutch operative with the axle, an arm for actuating one of the members of the clutch, said arm having a slot, and a projection on said angle lever to enter said slot.

685,150. Cyclometer. James A. Keyes, New York, N. Y. Filed Feb. 26, 1900. Serial No. 6,462. (No model.)

Claim.—1. In a vehicle, the combination of a wheel thereof, a cam upon the hub of the wheel, a cyclometer mounted in fixed relation to the wheel, and a cyclometer actuating yoke partially encircling the hub in line with the cam and engaging said cam with its inner sides only and having a limited movement in oscillation whereby said yoke is oscillated by the cam in either direction of rotation of the hub.

685,174. Wheel for Road Vehicles. Charles Renard, Paris, France. Filed March 5, 1901. Serial No. 49,761. (No model.)

Claim.—1. An improved wheel felly, provided with a detachable rim for wheels of vehicles having pneumatic tires, characterized by the arrangement of annular channels formed in any number in the felly and in the rim at the bearing points, such channels being kept in relation by means of wires, so that the parts can only be separated after the removal of the wires.

685,163. Mud Guard for Bicycles. Spencer Miller, Rochester, N. Y. Filed May 9, 1901. Serial No. 59,409. (No model.)

Claim.—1. A mud guard for bicycles, comprising a pair of arms, and two bracket plates, to about the centre of which the arms are pivoted, each plate being provided with an opening to receive an axle and at the edge opposite the opening with two space projections, which serve as stops to limit the swinging movement of said arms and hold them in the two positions into which they are adapted to be swung.

The Retail Record.

Baldwinsville, N. Y.—Charles Miller was burned out.

Barnesville, Ohio.—Jones & O'Donnell, dissolved.

Gardner, Mass.—Adams & Hartwell closed for the winter.

Paris, Me.—C. L. Cummings has opened a repair shop.

Chicago, Ill.—Egan & Co., 861 Milwaukee avenue, fire loss \$500.

Paterson, N. J.—E. A. Brown, 403 Main street, closed for the winter.

Ilion, N. Y.—William Neill has purchased the business of P. S. Stubblebein.

Schenectady, N. Y.—G. N. Rogers, 112 Clinton street, opened repair shop.

Dubuque, Iowa.—Munsell & Miner have removed to a new location on Main street.

Davenport, Iowa.—W. J. Pugh and George Bofinger, 318 West Third street, opened repair shop.

Flint, Mich.—Foss & Springer have purchased a half interest in the business of A. D. Caldwell.

Lowell, Mass.—H. C. Stafford, 33 Shattuck street, has disappeared, leaving, it is said, many debts behind.

Ottawa, Ill.—A. H. Moore has purchased from George Serviss the business of the Ottawa Cycle Company.

"Have a Look;
It Costs You Nothing."

1902 YALES NOW READY.

Cushion Frame Chainless — Racer —
Pace-Follower.

TRAVELERS ON THE ROAD.

The \$35 Yale is the "Best Ever."

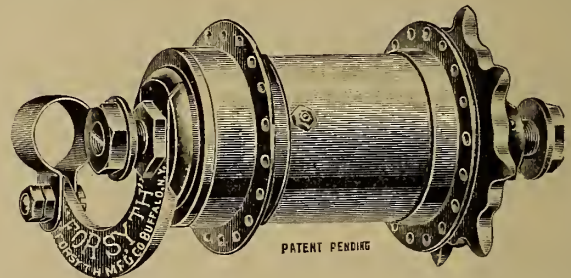
THE KIRK MFG. CO., - TOLEDO, OHIO

SUICIDE! SUICIDE! SUICIDE!

The Manufacturer or Jobber who BINDS himself
by CONTRACT to oppose improvements in Coaster
Brakes simply commits commercial SUICIDE.

"THE FORSYTH"

is a WINNER and THE RIDER is bound to "HAVE
A LOOK" when IT'S ALL OFF with the other
make.



No Friction. Spins Like a Top. Thoroughly Adjustable.
INVESTIGATE.

FORSYTH MFG. CO.,

BUFFALO, N. Y.

1902 SNELL BICYCLES.

NEW MODELS.

TRAVELERS STARTING OUT.

WAIT FOR THEM.

1902 HUSSEY BARS.

NEW HUSSEYS.

THE SNELL CYCLE FITTINGS CO.
TOLEDO, OHIO.

"The Sphinx of the Twentieth Century."

ASIA AND THE CHINESE EMPIRE.

Comparatively few people are familiar
with the Chinese Empire as it exists to-
day. In view of the constantly growing
Oriental commerce of the United States
everyone should become familiar with
the Chinese Empire. The

NEW YORK CENTRAL'S

"Four-Track Series" No. 28 gives valu-
able statistics and information regarding
the Flowery Kingdom, and contains a
new and accurate map in colors.

A copy of No. 28, "A New Map of Asia and the
Chinese Empire," sent free, postpaid, on receipt of
five cents in stamps by George H. Daniels, Gen-
eral Passenger Agent, New York Central Railroad,
Grand Central Station, New York.

(Continued from page 95)

prevent English machines from competing in price with and beating the American article:

"In 1889, when the first indication of the competition of English safeties was beginning to be felt here, the Overman Co., acting indirectly, imported a lot of English safeties of the best grades—the Rover being one of them—and had them sold at retail at \$10 and \$15 less than the then standard price of American safeties—that is to say, \$115 or \$120, as against \$135. This I know to be a fact, for my partner bought and sold such machines in Philadelphia; the object was, of course, to show that these English machines, for which more money was demanded than for American wheels, were really worth less and could be sold for less. And this was done, notwithstanding the tariff.

"As long as we regarded the English machines superior to ours, neither considerations of patriotism nor cost restrained us from buying them; conversely, when this superiority ceased to exist the purchase of English wheels dropped off or ceased entirely. Neither change of tariff nor of price had anything to do with this; it could not have done so, for there was no change of either.

"Nor will it do to assert that the disappearance of the English machine was due to the reduction of American list prices.

"These reductions did not begin until 1894, and by that time the English bicycle was as dead as a doornail. In 1893 I sold four times as many American machines at \$150 as English ones at \$150 to \$160; although the year before, with exactly the same prices, the sales went just the other way. I can even go further in making this point: In 1894 and 1895, when our prices dropped, the few English concerns left—and they were very few—cut also; and, this failing to stem the current, they started to make the English models in this country and to sell them at the same price as other American machines. But this, too, failed.

Bicycle Idea in Balloons.

In his efforts to perfect his dirigible balloon, Santos Dumos made great use of the motorcycle idea. He used a tricycle motor and frame; chains, sprockets, cranks and pedals being employed to start the motor exactly as in the case of the bicycle and tricycle; he used a bicycle saddle as his seat and controlled the rudder by means of handlebars. He even used bicycle wheels to move the balloon when on the ground. In his latest creation he seats himself in a basket and controls motor and rudder with strings and wires, but admits that he is endeavoring to evolve a device based on the bicycle idea, which he believes is best for the purpose.

To Soften Steel.

Cover with clay, heat to a cherry red in a charcoal fire, and let cool over night in the fire.

RACING

Kramer and Champion divided honors at Vailsburg October 28. Kramer made his first appearance as a pace follower, and scored a rather hollow victory over Munroe in two straight heats of a match series.

Champion's honor was a mile on his motor bicycle in 1:12 2-5, a record, of course, and a phenomenal performance as well.

The first heat between Kramer and Munroe was a mile, with Kramer on the pole. They came down to the tape on even terms, but Kramer immediately went to the front. He opened up a gap of five lengths in the first two laps, but coming around for the third time Munroe closed up. They fought every inch of the last lap, but Munroe was unable to get to the front, and Kramer

MORGAN & WRIGHT TIRES
ARE GOOD TIRES

NEW YORK BRANCH: 214-216 WEST 47TH STREET.

crossed the tape a winner by two open lengths. Time, 1:33.

In the second heat, at five miles, Munroe had a slight advantage when the word was given, but Kramer was in the lead when the first lap was completed. On the second turn of the track Munroe went to the front and Champion, who acted as pacemaker for Kramer, swung in behind. The positions remained unchanged to the eighteenth lap, when Kramer shouted for faster pace. Champion let out a notch, and Munroe's lead was gradually cut down. Coming into the stretch for the last time, Kramer went by Munroe, and the latter set up, allowing Kramer to finish the race alone. Munroe complained of Newkirk, his pacemaker, but it was evident that his heart was at fault. Although Kramer had him beaten when Munroe quit, the latter should have finished the contest. Time, 8:11.

It took three heats to decide the one mile match race between H. B. Freeman and Floyd Krebs. Freeman won the first and Krebs the other two. Time, 2:44 1-5, 2:30 and 2:34 1-5.

According to press reports, plans for a permanent structure to be devoted to indoor bicycle racing at Saratoga Springs have been announced by a syndicate of promoters of professional cycle racing, headed by W. A. Elkes. The intended building is to be styled the Saratoga Palace of Sports. It is to have a seating capacity of 20,000, the seats to be arranged on the plan of a circus amphitheatre, around a track that will be six laps to the mile. The Palace, of course, is still locked in the recesses of Mr. Elkes's "think tank." If it ever gets any further time alone will tell.

Michael beat Bonhours in an hour's contest at the velodrome track in the Parc des Princes, Paris, on Sunday last, establishing a new world's record for ten, twenty and thirty miles, for one kilometre and from six to twenty kilometres. He also broke the records for thirty and forty kilometres and from fifty to fifty-three kilometres. Bonhours abandoned the contest after the thirty-eighth kilometre. Motor pacers were used. Fifteen thousand persons witnessed the performance.

Carl G. Fisher, the Indianapolis Hoosier, and his motor bicycle continue to open the eyes of the Texans. At Dallas he made their hair curl by the manner in which he disposed of a relay of three running horses. He started even with the first one, allowed the second a sixteenth of a mile and the third an eighth of a mile, and beat out each in turn, doing his miles in 1:50, 1:56 and 1:45, respectively.

Turpins Awheel.

In this matter of fact twentieth century there is small room for romance. The modern Dick Turpins no longer bestride Black Besses when on their marauding expeditions. They have recourse to something infinitely more prosaic, but none the less practical. At Rochester, N. Y., last week five highwaymen, who, under the leadership of the notorious "Jack" Wagner, have terrorized the inhabitants of Monroe and Genesee counties during the past month, were captured at Batavia. Wagner and his band of outlaws are all young men, and instead of being mounted on horses they rode bicycles.

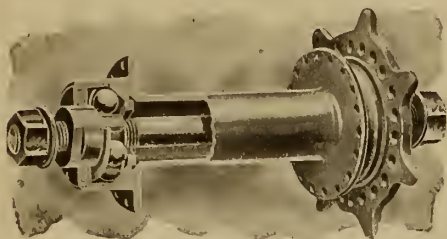
Being expert wheelmen, it was a comparatively easy task to hold up a farmer, and after going through his pockets and taking everything of value, put ten or twelve miles between them and their victim within an hour.

Decreases Liability to Fracture.

One method of case hardening small parts is thus described: The process consists in heating the articles, surrounded by bone charcoal, in a crucible up to about 1,000 Centigrade. After being left in the crucible for seven hours the parts are taken out and thrown into cold water. This causes the metal to assume a crystalline structure. After the chilling the pieces are heated to a bright red, verging on orange, and then chilled a second time. By this means the grain is converted from crystalline into fine grain, and the resistance to fracture of the metal increased to something like ten times what it was before.

CHAMPION HUBS

Write for Complete Description and Prices.



(LIGHT WEIGHT RACING MODEL.)

ALSO REGULAR ROAD HUBS.
Worthy of Their Name.

VULCAN HUBS.

Cheap but Good and Well Worth Their Price.

I. A. WESTON CO., Syracuse, N. Y.
Selling Agents, C. J. IVEN & CO., Rochester, N. Y.

HIGH GRADE

wheels must have the
best equipments.

There is nothing that gives more value for
the money than the use of the

MORSE TWIN ROLLER CHAIN



NOISELESS IN MUD, WATER OR
DUST AND ALWAYS EASY RUNNING.

The only chain having Frictionless
Rocker Joints. Insist on having the
Morse Twin Roller. Fits regular
sprockets.

Send for Catalogue and
Trade Price to

Morse Chain Co., Trumansburg, N. Y.

WANTS AND FOR SALE.

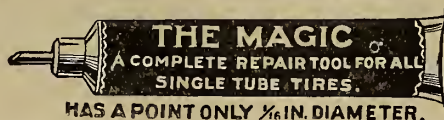
15 cents per line of seven words, cash with order.

REPRESENTATION IN EUROPE. — An American, aged 35, who for five years was a traveling salesman in Europe for a large American cycle manufacturer, and who is thoroughly familiar with the trade there, speaking German, French and Swedish, wishes to make arrangements with a reliable house manufacturing motor cycles or automobiles to travel for or represent them in Europe. First-class references as to character and ability on both sides of the Atlantic. Address Otto F. Mack, Boblingerstrasse 55, Stuttgart, Germany.

Measuring Energy as Well as Distance.

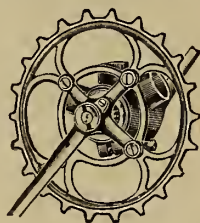
It does not do to hold the Chinese too cheaply. A system of measuring roads which they are said to use has a great deal of common sense back of it. In some respects it is a bit ahead of anything found in the cyclists' road books, although the latter were compiled with great care and intended to give just such information as the Celestials are credited with having hit upon.

The inhabitants of that country express the distance between two given points in multiples of a unit which takes into account the difficulties to be overcome and the energy to be expended in passing from one of the points to the other. Hence it happens that from the village A to the village B may be ten Chinese miles, while from B to A it may be only eight, the road being up hill one way and—very naturally—down hill the other.



THE MAGIC
A COMPLETE REPAIR TOOL FOR ALL
SINGLE TUBE TIRES.
HAS A POINT ONLY $\frac{1}{16}$ IN. DIAMETER.
THE MAGIC is as good as ever. But prices are different. Get our new quotations for 1902 and you will be right in it. You will find it well worth the trouble.

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"D. & J." HANGERS

FOR
Single,
Tandem,
Triplet,
Quad and
Motor Cycles.
ABSOLUTELY THE BEST

Lightest, Nearest Dust Proof, and
Easiest Running Hanger in the World.
Park City Mfg. Co., inc., Chicago

HAND AND FOOT PUMPS,

Oilers, Repair Tools,
Valves, Name-plates, etc.

Spelter Solder

Sheet Brass,
Brass Wire and Rods.

SPECIALTIES to order
MADE OF BRASS.

SCOVILL MFG. CO.

Factories: Waterbury, Conn.
Depots: 210 Lake St., Chicago.
421 Broome St., New York

"PERFECT"



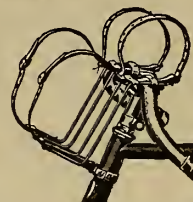
OILER.

For High Grade Bicycles. The best and neatest Oiler in the market. DOES NOT LEAK. The "PERFECT" is the only Oiler that regulates the supply of oil to a drop. It is absolutely unequalled. Price, 25 cents each.
We make cheaper oilers, also.

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WOLFF-AMERICAN BICYCLES.

STEARNS BICYCLE AGENCY, - Syracuse, N. Y.



LAMSON-PETERSON LUGGAGE CARRIERS

The most
serviceable made.

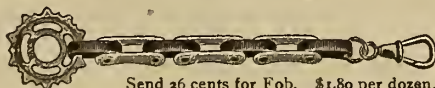
MEQUIER & JONES CO., Portland, Me.

INDIANA CHAINS

EASIEST RUNNING. CONSEQUENTLY BEST.



EVERY LINK IS RIGHT.
PRICE IS RIGHT.



Send 26 cents for Fob. \$1.80 per dozen.

INDIANA CHAIN CO., Indianapolis, Ind.

BRANDENBURG BROS. & WALLACE, Salesmen.
New York—Chicago.

If You Desire Complete Motor Bicycles

You cannot get a better one than

THE MARSH.

If You Desire to Build Your Own Motor Bicycle

We can supply everything which you require
for the purpose. Write us.

The Motor Cycle Mfg. Co., Brockton, Mass.

When Bells are Mentioned

nowadays the name Bevin suggests itself as naturally as the name Edison when electricity is talked of.

You all know why.



Bevin bells are not only the best bells, but the best advertised, the best known, the best sellers.

"We rarely hear of any other," is the way one man expressed it.

The shrewd buyer appreciates the value of such conditions.

Are you one of the shrewd ones?

Bevin Bros. Mfg. Co.
EAST HAMPTON, MASS.

BUSINESS ESTABLISHED IN 1832

The Week's Exports.

While Great Britain figures as the largest purchaser, the feature of last week's exports was the shipment to China. Its value, \$2,266, is believed to have been exceeded only by the record breaking shipments of July last. It renews the hope that the Yellow Empire is finally awakening. Denmark and Germany were the only other countries whose purchases exceeded \$1,000. The detailed record for the week follows:

Antwerp—17 cases bicycles and material, \$490.
Amsterdam—1 case bicycles, \$12.
Azores—2 cases bicycle material, \$57.
British West Indies—24 cases bicycles and material, \$721.
British Australia—4 cases bicycle material, \$77.
British East Indies—22 cases bicycles and material, \$622.
British Guiana—6 cases bicycles and material, \$281.
Copenhagen—51 cases bicycles, \$1,223; 30 cases bicycle material, \$636.
China—49 cases bicycle material, \$2,266.
Cuba—10 cases bicycle material, \$210.
Dutch East Indies—12 cases bicycles, \$176.
Glasgow—6 cases bicycles, \$170.
Genoa—18 cases bicycle material, \$958.
Havre—12 cases bicycles, \$258; 9 cases bicycle material, \$215.
Hamburg—27 cases bicycles, \$630; 11 cases bicycle material, \$1,082.
Liverpool—32 cases bicycles, \$830; 14 cases bicycle material, \$1,076.
Japan—6 cases bicycles and material, \$50.
London—2 cases bicycles, \$50; 55 cases bicycle material, \$3,140.
Lisbon—3 cases bicycle material, \$118.
Milan—3 cases bicycle material, \$28.
Peru—1 case bicycle material, \$43.
Philippines—21 cases bicycles and material, \$362.
Rotterdam—6 cases bicycles, \$135.
Southampton—7 cases bicycle material, \$526.

Medicine for Sick Steel.

To restore burnt steel and improve poor steel this recipe is given by one who has used it: Borax, 3 ounces; Sal ammoniac, 8 ounces; prussiate of potash, 3 ounces; blue clay, 2 ounces; rosin, 1½ pounds; water, 1 gill; alcohol, 1 gill. Put all over a slow fire, let it simmer until it dries to a powder. Heat the steel not above a cherry red, dip into this powder and afterward hammer.

England's Increase Continues.

England's cycle export trade maintains the increased strength which set in in June last. The increase in September was particularly large—a matter of \$60,000; in September, 1900, the record was £31,975; September, 1901, £45,071.

To Blue Steel.

Ten pounds saltpetre, one pound black oxide of manganese. Heat in a crucible to a point that will ignite pine sawdust; stir thoroughly. Suspend work in a wire basket, keeping basket in motion, until proper color is obtained.

YOU MAY SAFELY WAGER

YOUR LAST DOLLAR



That there is not a better saddle than the Oak on the American market, or on any other market for that matter.

You will find the metal work as good as the leather; and the leather is the very best that money can purchase.

With some saddles it is a case of "all in the leather."

With us, it is the saddle as a whole. One part is as good as the other, and we ourselves buy the raw material and form and finish each and every part that goes into the saddle.

Our guarantee is generous; it covers everything; it is insurance against stretching or sagging and every other possible shortcoming.

Our price is in keeping with the guarantee. We'll be pleased to quote you on request.

NEWARK CYCLE SPECIALTY CO.,

NEWARK, N. J.

The Thorndike

Boylston St. and Park Square,

On the border of the most famous **BOSTON.**
Public Garden in America.

G. A. DAMON. J. L. DAMON. J. L. DAMON, Jr.

FAST TRAINS

Chicago & North-Western Ry.

The Overland Limited

California in 3 days

The Colorado Special

One night to Denver

The Chicago-Portland Special

Oregon and Washington in 3 days

The North-Western Limited

Electric Lighted—Chicago,
St. Paul and Minneapolis

Duluth and St. Paul Fast Mail

Fast train to head of lakes

The Peninsula Express

Fast time to Marquette
and Copper Country

NO change of cars. The best of every-
thing. Call on any agent for tickets
or address

467 Broadway - New York | 435 Vine St., - Cincinnati
801 Ches't St., Philadelphia | 507 Smith's Bldg., Pittsburgh
368 Washington St., Boston | 234 Superior St., Cleveland
301 Main St., - Buffalo | 17 Campus Martius, Detroit
212 Clark St., - Chicago | 2 King St., East, Toronto, Ont.

The Best Advertising for the
Irish Trade is

THE IRISH CYCLIST

Specimen copy and advertising rates on
application to

R. J. MECREDY & SON, Ltd., Proprietors,
49 Middle Abbey St., DUBLIN.

All American wheelmen who desire to keep themselves
posted upon matters concerning the cycle in Europe, its trade,
mechanics, and sport, should subscribe to

THE CYCLIST

AND BICYCLING AND TRICYCLING TRADES REVIEW.

The only recognised authority of English trade and manufac-
ture. Sent post free to any part of America for one year, \$3.25.
American manufacturers having novelties in machines or sun-
dries to introduce should advertise in

THE CYCLIST.

Terms on application to

LILIPPE SONS & STURMEY, Ltd.,
19 Hertford Street, Coventry, England.

Members of the American Trade visiting England are invited to
call at THE CYCLIST Office at Coventry, or at 3 St. Bride Street
Ludgate Circus, London, E. C.

FAUBER PERFECTION HANGER.

Unequaled in any of the Points which make
a PERFECT Hanger.
LIGHT, SIMPLE, DURABLE.

W. H. FAUBER, Manufacturer, CHICAGO, U. S. A.



Through Train and Car Service in
effect April 29, 1900.

TWO FAST TRAINS

	"Chicago" Special Via Lake Shore.	"North Shore" Special Via Mich. Cen.
Lv. Boston	10.45 A.M.	2.00 P.M.
Due Albany	4.10 P.M.	7.35 "
" Syracuse	7.55 "	11.40 "
" Rochester	9.40 "	1.30 "
" Buffalo	11.40 "	
" Toledo	5.55 A.M.	
" Detroit		8.15 "
" Chicago	11.50 "	4.00 P.M.

The Finest Pullman Cars will be run on these trains.
Tickets and accommodations in sleeping cars for sale at City
Office, 366 Washington Street and at South Station.

A. S. HANSON, General Passenger Agent.

If You are Interested in Automobiles, THE MOTOR WORLD

Will Interest You.

It's readable,
and you can understand what you read.

Published Every Thursday
at 123-5 Tribune Building, New York.

\$2 per Year.

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CHANDLEE & CHANDLEE
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WASHINGTON, D. C.

Many have made fortunes from simple inventions

NEVER LEAK

STOPS LARGE PUNCTURES.

This is the only fluid that can be legally used in pneumatic
tires. Suits now pending.

BUFFALO SPECIALTY MFG. CO.,
Buffalo, N. Y.



Via Rockford, Freeport, Dubuque, Independence,
Waterloo, Webster City, Fort Dodge, Rockwell
City, Denison and Council Bluffs.

DOUBLE DAILY SERVICE TO OMAHA

Buffet-library-smoking cars, sleeping cars,
free reclining chair cars, dining cars.
Tickets of agents of I. C. R. R. and connecting
lines. A. H. HANSON. G. P. A., Chicago.

BOSTON & MAINE R.R.

**LOWEST RATES
FAST TRAIN SERVICE**

BETWEEN

Boston and Chicago,

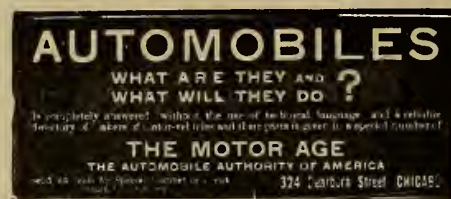
St. Louis, St. Paul,
Minneapolis

and all points West, Northwest, Southwest.

Pullman Parlor or Sleeping Cars on all
Through trains.

For tickets and information apply at any
principal ticket office of the company.

D. J. FLANDERS, Gen'l Pass. & Ticket Agt.
BOSTON.



The Bicycling World

AND MOTOCYCLE REVIEW.

In which is incorporated "The Wheel and Cycling Trade Review" and the "American Cyclist."

Volume XLIV.

New York, U. S. A., Thursday, November 7, 1901.

No. 6

MANY MILLIONS LESS

American Bicycle Co. Cuts its Capital— Round Figures no Longer Rule.

At the special meeting of the stockholders of the American Bicycle Co., held on Wednesday of last week, \$53,003,600 was nominally pared off of the capital stock. The capital of the company now stands at \$26,996,400, made up of \$9,294,000 preferred stock and \$17,701,500 common.

The reduction, however, was more apparent than real, since but \$30,000,000 of the authorized capital of \$80,000,000 had been issued.

The vote to reduce the capital was, of course, unanimous.

Will not Retire.

Printed reports that they would retire from the manufacture of bicycles are emphatically denied by the Frazer & Jones Co., Syracuse, N. Y. In a letter to the Bicycling World they state that the Elfin juveniles will be on the market in 1902, and add that if they ever decide to cease their manufacture they will make the announcements in proper fashion.

The Motor Bicycle Year.

Prophecies are being freely made that 1902 will be known in British cycle history as the Motor Bicycle Year. The number of firms that have brought out such machines is considerable, and every confidence appears to be felt that there will be a good demand for them.

Becomes a Corporation.

The Connecticut Rubber Corporation of Hartford has filed certificates of incorporation and organization in the State Secretary's office. The authorized capital stock is \$10,000. John J. Ward and Frederick W. Starr are the directors signing the certificates.

Sherman Joins Hendee Staff.

G. W. Sherman, formerly with the E. R. Thomas Motor Co., has engaged with the Hendee Mfg. Co., Springfield, Mass. He will travel the Hendee territory, and incidentally keep an eye on the Indian motor bicycle, which is coming on apace, and will be ready for next season's trade.

Solar Springs a Surprise.

Among the surprises of the season is a Solar oil lamp which has just made its appearance from the factory of the Badger Brass Mfg. Co., Kenosha, Wis. As "the lamp that made acetylene famous" the Solar has been inseparably linked with the "new gas," but the Badger people say that the Eastern trade in particular has demanded an oil lamp, and the newcomer was brought out to meet the demand. It is a well-designed creation, six inches high and of light weight. It is made entirely of brass, nickelplated, and has removable top head, reflector and wick lock burner. The oil cup is secured to the body by a bayonet fastening and is wool-packed to prevent slopping. The price, \$1.50, prepaid, is not the least interesting feature of the lamp.

Keating Affairs Still Unsettled.

Believing that they were entitled to know more about the condition of affairs, sixteen holders of the bonds of the Keating Wheel and Automobile Co. met at the Board of Trade rooms in Middletown, Conn., last week and exchanged experiences and opinions. The upshot of the conference was an agreement not to accept other bonds in exchange for those they hold, an offer which it is understood is about to be made. There was a feeling expressed that had the bondholders foreclosed on the property a year ago they would have been in a better position to-day than they find themselves.

Two new Branches on Fisk Tree.

The demand for Fisk tires justifying the move, the Fisk Rubber Co. have established two new branches—one in Boston at 604 Atlantic avenue, the other in Philadelphia at 916 Arch street. The former will be in charge of G. A. Campbell, late with the Columbia factory at Hartford, while the Philadelphia store will be managed by J. L. Gibney, who has been identified with the rubber trade of the Quaker City. Both establishments will carry complete stocks of tires and Fisk specialties, and will maintain fully equipped repair departments.

H. H. Fulton, president of the Eclipse Mfg. Co., is himself "swinging around the circle." He is already well on his way to the Pacific Coast.

KEHEW COMES BACK

After a Short Retirement he Re-enters the New England Trade With new Stocks.

After a brief retirement, the United Supply Co., Boston, is again in the field, and, as before, George F. Kehew and John C. Patterson are the heads of the concern.

They re-embarked in the jobbing business last week, with temporary offices at 372 Atlantic avenue and warerooms at 45 India Wharf.

The re-establishment of the company will prove in the nature of a surprise to many, as it is but six weeks since it sold out, lock, stock and barrel, to the Equitable Providing Co.—the New England retail pool. It transpires, however, that the sale embraced only the stock and leasehold of the United Supply Co., and not its name or right to re-enter the trade.

The United's re-entry at this time makes it appear that the competition of the "pool" is not proving as formidable as was first expected.

Here's a Money Maker.

While the Dunlop Tire Company is generally reckoned the fortune maker of the tire and rubber industry, Germany's big tire concern, the Continental Caoutchouc and Guttapercha Company, has made a "few dollars" on its own account. Witness these dividends:

1896, 55	per cent	on a capital of 900,000 marks
1897, 55	"	" " 900,000 "
1897, 55	"	" " *300,000 "
1898, 55	"	" " 1,200,000 "
1899, 40	"	" " 2,400,000 "
1900, 45	"	" " 2,400,000 "

*One-fourth year.

Extended the Injunction.

Attorneys representing creditors of the defunct Adirondack Cycle and Supply Company argued at Buffalo last week for the extension of a temporary injunction granted at their request restraining the buyers of the assets of the company from disposing of the goods or of the money received for them if they were sold. Judge Hazel granted an order extending the injunction thirty days after the appointment of a trustee.

ONE CAUSE OF DISTRESS

Too Much Concentration Bottled up Individual Energy, Says this man.

"Don't put me down as one of the anti-Trusties," said the veteran, "because I simply am not one of the 'knockers.' I can see that not a few advantages can accrue from organizations of the sort, but while you are trying to account for the trade's loss of spirit, you may just put me on record as believing that when Colonel Pope and Lindsay Coleman, and Gormully & Jeffery, and Lozier, and the few other big fellows joined the same church, so to speak, and began praying and working in unison, that that action bottled up a good part of the trade's energy.

"Theory is against me, I know, and I am not going into whys and wherefores to justify my opinion. But it would take a charge of nitro-glycerine to shake my belief that if Pope and Coleman and the others were gunning for business on their own hooks and competing with each other as in the old days that the trade would not be a blamed sight livelier and better than it has been during the last two years.

"While I am at it, here's another opinion for you: If the little fellows who are now struggling with motor bicycles are able to hang on until the real demand develops some of them will grow fine and large and we'll have lively times and gingery competition again. They've got a long start of the old makers and will make things interesting for some of them or I miss my guess pretty badly."

Bicycles for London's Letter Carriers.

The English Post Office authorities have decided to employ bicycles for the collection of letters from street boxes in London. This change, it is stated, has long been under consideration, the authorities having waited for a full report of the bicycle service instituted some months ago in Melbourne. The plan has worked very well in that city, hence the decision to adopt it in London. The substitution of bicycles for carts for collecting purposes will, it is estimated, not only save time, but will result in a saving of 60 per cent, as it will be possible to employ fewer men for the work, while the costliness of horse labor will be avoided.

This Lamp Policy is Liberal.

The public declaration of Hine-Watts Co., of Chicago, that they will take back all Columbia gas lamps that may remain unsold at the end of the season is an unusual one, but one that is calculated to "catch" the trade. Mr. Hine states that it is made possible by the salability of the lamp itself, that is, that it sells so readily that the carried-over stocks are not likely to be very consequential.

One Cause of Boston's Illness.

"Yes, Boston is a 'dead' bicycle town," admitted the dealer from the New England metropolis, "but don't imagine for a moment that no bicycles have been sold. I frankly admit that I didn't sell many of them," he went on, "but it was simply because I couldn't meet the competition. I devoted myself to other things for the very good reason that I keep my store open twelve months in the year.

"The men who sold the bicycles in and around Boston were the chaps who open their shops in February or March and close them in October. They have no regard for prices. They simply sell all they can however they can in the months they are open. If they get good jobs for the winter they hold them; if they do not they rush back into the cycle business in the spring. While the manufacturers countenance dealers of that sort there is little or no chance for dealers like myself to make money, and there is no incentive for us to devote ourselves to bicycles."

Boom Likely in Japan.

W. Tagou, of the Yokohama house of K. Ishikawa & Co., is among the foreign visitors now in the city. He reports that the American bicycle still retains its popularity in Japan, although some of the first makes to establish themselves have fallen from grace, mainly because of varying quality.

Owing to financial distress the demand for bicycles was not as heavy this season as was expected, but next year, Mr. Tagou believes, will see something of a boom in Japan.

Bicycles, he says, are gradually finding their way into the country districts, and a large demand is sure to result.

"We have no car lines, like you have here," Mr. Tagou remarked, "so that the bicycle is really necessary for us to get about."

The Japanese Government, he said, had made an attempt to build bicycles for use in the army, but had met with no great measure of success.

Heart Trouble Caused Starley's Death.

J. K. Starley, the man who made the safety bicycle practical, whose death was announced last week, was carried off by heart trouble of long standing, aggravated by recent complications. In one of his last public utterances he urged the cycle trade to let automobiles alone, or, at any rate, to deal with them gingerly and with extreme caution.

Takes up Bolton Tool.

The Union Manufacturing and Specialty Co., 506-508 Genessee street, Buffalo, have taken up the recently patented Bolton automatic tire repairing tool, and will place it on the market. The inventor, G. W. Bolton, Jr., has connected himself with the concern, and will travel in its interests.

"Motocycles and How to Manage Them"; 126 pages, 41 illustrations; cloth bound. \$1. The Goodman Co., Box 640 New York. ***

AURORA WILL MAKE MOTORS

Hendee Closes the Deal and his Indian Makes Ready for Next Year.

After a year of most exhaustive use and experimentation the Indian motor bicycle may now be said to be fairly on the market. It certainly will be no small factor in next year's trade.

This is made evident by two things—new capital has been added to the Hendee Manufacturing Co., of Springfield, Mass., and the Hendee Manufacturing Co. has effected gilt edged arrangements for the manufacture of its motors.

The deal was completed last week, and with none other than the Aurora (Ill.) Automatic Machine Co., than whom none is better qualified or equipped for the purpose. They already have the work well in hand, and it is expected that the motors will be forthcoming before the close of the year.

Before they would accept the order the mechanical heads of the Aurora concern put the Indian to some amazing tests, and their opinions have added to Mr. Hendee's abiding confidence in the creation of Otto Hedstrom's ingenuity.

The Hendee people have the tools necessary for their part of the work already made, and so soon as the motors come through the Indian motor bicycle in its entirety will spread over the land. It is one of the best lookers to be found anywhere, and its performances have demonstrated that it is as good as it looks.

To be Seen at the Show.

At the automobile show now in progress in Madison Square Garden, New York, five motor bicycles are in evidence—the Indian, shown by the Hendee Manufacturing Co.; two Marshes, one of them a giant 6 horse power racer, by the Motor Cycle Manufacturing Co.; a Merkel, exhibited by the Merkel Manufacturing Co., and a Holland, by the Holland Auto Co., of Jersey. The last mentioned is really but an ordinary bicycle, to which a 1¼ horse power motor has been affixed, the manufacture of small motors—from 1¼ to 6 horsepower—being the Holland company's principal business.

"Cushion Frame" is Private Property.

If there is any term in use in the trade that is jealously guarded it is the term "cushion frame," which not a few people have imagined was public property. The Hygenic Wheel Co. have eyes like a hawk for those who attempt to employ the term, and pounce as surely and as swiftly on the offenders. With authorities to back them up, they have made "cushion frame" their own, and their case is so strong that one warning is usually sufficient.

EFFECTIVE WINDOW DISPLAY

Interesting Opinion of Many Merchants—
Mixing of Goods in Disfavor.

Is it better to display one line or several in the show windows? This question, recently addressed by the Iron Age to leading merchants in different sections, brought some interesting opinions, although the replies received indicate very clearly that the large majority of dealers believe in showing one line. The opinions of the eighty-two dealers heard from have been classified as follows:

Display one line only.....	45
Generally display one.....	21
Sometimes display one line and some- times mixed lines.....	7
Display mixed lines.....	9

Some of the opinions expressed follow:

"Our practice is never to put more than one line of goods in a window, or rather compartment of a window. If you can fill a single window with one article it makes a very effective advertisement. In general kindred lines will all attract more attention if a window is reserved to each separately. Such a window will certainly be more likely to attract a customer's attention to an article he may see, if he only has to pick it out of a few articles, than if he had to pick it out of a man's entire stock, sampled in the window, as is too often the case."

"Is it better to display one line of goods or several? This depends entirely upon the season of the year. I believe if the windows are small it is best to use one article, if it is a seasonable article that you wish to display; otherwise I should never confine myself to one article, but use as many seasonable goods as possible in the window. One article attracts one person, and is of no attraction whatever to another. Place as many articles in a window display as possible, and arrange them in such a manner that it will be certain to stop your customer. If you cannot attract him in one way do so in another. A very good method to attract attention is to lay a very bright article in the sunlight at such an angle as to throw a ray of light into your customer's eye. He will stop every time and see what article it is that has caused the trouble. This makes a very good ad."

"I am a strong advocate of the idea of 'oneness' in the display of goods. One kind of article, or one kind of goods, or several different kinds of articles advertised at one price, I believe, attracts attention and allows the observer to take in at a glance and retain the display in the mind, where a display of several articles of a miscellaneous character would only be confusing. For example, a display of tea kettles of one kind or of different kinds would make an impression on the mind of even the casual observer, and he would no doubt be able to tell his wife after he went home what Mr. Hardwareman has in his window this week, while

if the display was a miscellaneous collection of tea kettles, boilers, dishpans, axes, churns, curry combs, etc., the chances are he would not tell a single article that was designed to claim his attention. Where several different kinds of articles are displayed at one price it is the price that attracts and not the goods."

"After a good many years' experience we think it better to put only one article in a window at a time. There is an old saying, 'If you dazzle them you've got 'em.' By placing a large quantity of a certain article in one window it attracts attention to the particular article more than if you had a number of articles in the window. When a number of articles are in the same window a person does not pay any particular attention to any of them, but when filled full of one article it cannot help but attract a great deal of attention."

"We believe in concentration, and think that one line properly displayed has a much better result than to include several lines, especially if they are dissimilar."

"One kind of goods at a time on as elaborate a scale as stock and window room will permit. If it is only tin pans, let it be tin pans on a large scale for a short time, and then change to something else."

"From our experience we believe it is more profitable to display wholly one line in a show window, although at certain periods of the year, especially at the holiday season, several lines may be displayed with profitable results."

"When we trim our windows we put in one window one week nothing but cutlery; next week nothing but lanterns; next week nothing but sad irons, all kinds, shapes and sizes; another week nothing but paints; another week nothing but brushes, and so on throughout the year."

"It is generally better to display goods of one line at one time, but for a change it makes a very attractive display to put goods of different lines in your window, provided the one dressing the window uses good taste in his work."

"A lot of one thing makes a permanent impression where a little of several would not be noticed."

Marsh now \$25 Less.

The first reduction in the price of motor bicycles is announced. The Motor Cycle Manufacturing Co., of Brockton, Mass., have lowered the price of the Marsh from \$200 to \$175. They are about to double their factory space and facilities, which will carry with it a greatly increased output for the 1902 trade.

Departure From Nickel Plating.

For the 1902 trade the 20th Century Mfg. Co. are producing their lumps in brass and in gun metal finishes in addition to the familiar nickel plating; the new finishes are in the nature of agreeable contrasts.

"Motocycles and How to Manage Them"; 126 pages, 41 illustrations; cloth bound. \$1. The Goodman Co., Box 640, New York. ***

REDUCING FACTORY COSTS

Apparently Small Things That Waste Time
and Labor and That Affect Profits.

"One secret of the industrial progress which is being made by this country and the success which attends its efforts to market its products abroad is found in the unremitting pains and marvellous ingenuity which are put forth to reduce the cost of manufacture wherever it is feasible, no matter how insignificant the saving thus effected," says an exchange.

"An illustration of this is given in connection with the management of the plant of one of the great consolidations who make it a constant study to reduce in every possible way the cost of turning out their product, watching with scrupulous care every detail of manufacture. The manager of the mill observed that in the course of manufacture a certain line of goods were laid down again several times, involving obviously the necessity of taking them up again. To this evident waste of labor the attention of the men in charge was called that they might study on the question as to the way in which it could be avoided.

"As a result of this a number of bright practical men are grappling with the problem thus presented. It is not to be supposed that it will be found feasible to do away altogether with waste of this character, but some modifications of method have been already adopted which will result in slightly diminished costs. The same principle might doubtless with advantage be considered carefully and in a practical manner by many manufacturers.

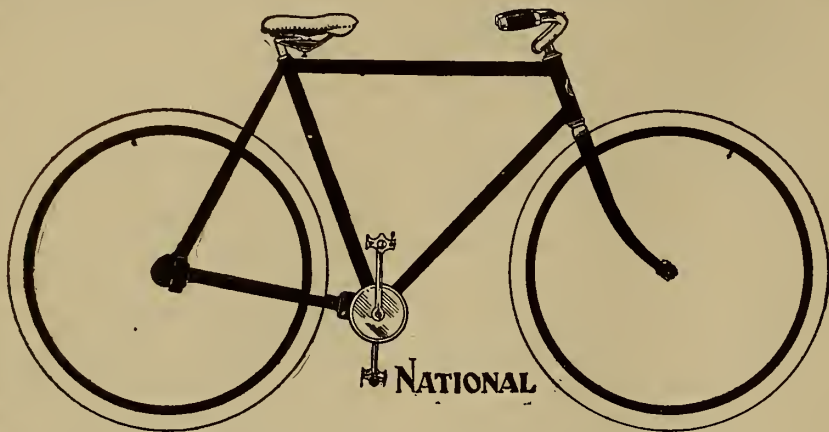
"A similar economy might be practised in many a manufacturing or mercantile office in connection with the conduct of the business. Some may be surprised to know that a great corporation, whose profits under existing circumstances are very large and who are abundantly able to be extravagant, should practise careful economy in every department.

"Bearing on this subject is the recent remark of a prominent and successful merchant that there is more need and more opportunity for bright and able men now than ever before in his experience. They must be of such a make up that they fall in with the changing conditions and movements, and are able to think out new lines of work or to direct with special efficiency, so that labor is minimized and the greatest results obtained at the smallest expense."

Big Profits in Palmers.

The Palmer Tire Co. (Limited), the British concern that manufactures Palmers on "the other side," continues to prove a money maker. On a capital of \$240,000 it has just declared a dividend of 25 per cent. for the year ending September 30. The previous year it paid 20 per cent.

New York City to Buffalo in 42 Hrs. 55 Mins. ON A NATIONAL CHAINLESS BICYCLE.



This is the bicycle upon which E. A. Payne, of Amsterdam, N. Y., established a new record from New York City to Buffalo.

A NATIONAL BICYCLE IS ALWAYS TO BE DEPEND-ED UPON FOR ANY SERVICE.

NO OTHER BICYCLE IS LIKE IT.
IT'S IN A CLASS BY ITSELF.

NATIONAL CYCLE MFG. CO.,

BAY CITY, MICH.

Never Too Late to Mend.

It is never too late to mend—some tires.

It is never too late to mend—your ways—and sell

Fisk Tires.

They require less attention and give better service than any other tires made.

Stop the leaks in your business occasioned by the selling of cheap tires and the consequent subsequent repairs.

Sell the Fisk and run no risk.

BRANCHES:

SPRINGFIELD; NEW YORK, 99 Chambers St.; SYRACUSE; BUFFALO
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FISK RUBBER COMPANY

CHICOPEE FALLS, MASS.

THE BICYCLING WORLD

FOUNDED 1877
and MOTORCYCLE REVIEW

In which is Incorporated
the "American Wheel" and the "American Cyclist."

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Change of advertisements is not guaranteed unless copy therefor is in hand on SATURDAY preceding the date of publication.

Members of the trade are invited and are at all times welcome to make our office their headquarters while in New York; our facilities and information will be at their command.

To Facilitate Matters Our Patrons Should
Address us at P. O. Box 649.

NEW YORK, NOVEMBER 7, 1901.

Effects of the Trade's Jag.

If the cycle trade of the United States needs anything, it needs nothing so much as an injection of courage.

This is plain language.

It is a time for plain speaking.

It is time to stop wailing.

It is time to stop damning and belittling the business in which one is engaged. There is entirely too much of it going on.

It is enough to expect it of the small army who came in with the boom and who went out with it. They made and lost their fortunes, or their situations, as the case may be, and have some cause for Jeramirahing. But those who remain and who are engaged in the business, and whose interests repose in the wellbeing of the business, are simply undermining themselves and making harder their respective ways by their doubts, complaints, pessimisms and belittlements.

It is time they ceased.

The bicycle business is not "dead" or "done for." It lacks tone and spirit simply because too many of the people in it lack tone and spirit. Of the many there are not a few in high places. Only this week we heard one of these describe the bicycle business as a "boy's business." All he possesses had been made in the "boy's business," but, like many others, he has become infatuated with automobiles. It is of this sort of belittlement that we speak. It is expressed in many forms and in many keys. Every one in the trade has had an overdose of it. It is becoming nauseating.

The condition of the trade is plain to all who care to view it. It is but just getting its legs again and becoming its normal self after a prolonged debauch. It drank so deeply and so long of the boom-liquid that its senses were befuddled. It became so intoxicated, it was so long drunk by unwonted success and popularity, it was such a "jolly good fellow," so to speak, that when the awakening came the headache that came with it was so intense that the trade could scarce recognize itself and its diminished head. It still saw giant vessels steaming toward it with cargoes of gold—a vision of its frenzy.

In this respect the American trade differed little from the English trade, the German trade or the cycle trade of any other country. They all partook of the same liquor and were as wildly intoxicated.

America drank deeper, perhaps, but at any rate it has been slowest to sober up. The other countries appear to have recovered their equilibrium and natural taste. America's cycle trade also is able to walk without reeling, but it still has "that dark brown taste" in its mouth and a keen appetite for "more of the same." With the dregs of its previous debauch still in its system it has heard much of a new and vision-promoting potion called "automobilism," and despite the lessons of the past it seems not only unwilling to complete its recovery, but anxious to drain the bottle of automobilism and then hug it in delirious glee. The trade remembers only the joys of the jag; its aches are forgotten; it seems ready and willing to bound from jag to jag.

The simile is an apt one. The "dark brown taste" is responsible for the pessimism and

miserable lack of courage that pervade the trade. It is a matter of record that we are slipping to the rear and losing our grasp on the export trade. It is a matter of remark on the part of returned visitors that in no European country is there so little faith and so much dejection in matters cycling. We appear to have gone the limit in both directions. We soared highest and slumped lowest. And now false prophets are luring on the trade to dangerous ground. Little fellows and big fellows, makers and dealers alike, show symptoms of stampeding to the automobile industry. They see millions in it. They appear to have an idea that men with money are falling over themselves in a mad rush to pay from \$1,000 to \$20,000 for self-propelled carriages. They appear disposed to "let the bicycle business slide," to use a familiar expression, and there are not wanting false gods to wave them on. But we are well informed regarding the automobile supply and demand, and to all and any in the cycle trade who may be wavering before taking the plunge we advise against the plunge. The automobile trade is already overcrowded. Save in a few instances, the supply exceeds the demand. Few engaged in it have yet received returns on their investments, and not one bicycle dealer out of one hundred is equipped or so situated as to make the business pay. The business has been forced. It is unripe, and, save to the man with a plethoric purse who can afford to disburse and await an unfixed time for returns, does the sale of automobiles promise aught but disappointment.

It is better far to conserve and concentrate the energy in the cycle trade. The bicycle can never die; it is too useful, and it is developing; there will be motor bicycles, and very many more of them than of automobiles. Business has been bad largely because not only the "outs" but the "ins" have talked badly and belittlingly of it. In the few instances in which it has been conducted with courage and a whole heart it has paid, and we believe will pay. It will no longer annually earn the fortunes which were earned in the days of "the debauch," but it will earn a live and living and reasonable profit, such as is earned in other unboomed trades, and with which other manufacturers and merchants are content.

If you are seeking a short cut to fortune get out of the cycle trade, and get out quickly. But, be you in or out of it, particularly if you are in it, be a man, and in the name of all that is holy stop not only your own wailing and belittlement, but bounce

the man in your employ who lacks faith or cannot speak well of the business that brings him his daily bread.

If you do not respect yourself and your occupation you cannot expect the world to do so.

Our Fall From First Place.

Unless all signs fail a most disagreeable surprise is in store for the American trade when the recapitulation of the world's export trade in bicycles for the year 1901 is made.

It is a situation not pleasant to contemplate. It is recorded with regret that the figures will show that the United States has fallen from first place to third.

Unpleasant as is the condition of affairs, it must be stated and faced. No good purpose will be served by having Disagreeable Fact play ostrich and stick its head in the sand.

On the returns at hand, it is evident that already we have been passed by Germany, while Great Britain is so close on our heels that at best a neck and neck finish is in sight, with the chances favoring our foreign rival.

Germany is already safely in the lead. The latest figures obtainable, those for the first six months of the current year, show during that period the Kaiser exported bicycles to the value of \$1,939,250. For the nine months ending with September, Great Britain shipped away \$2,051,220 worth, while Uncle Sam's foreign trade in the same time attained a valuation of \$2,115,055.

In June, however, Britain's long ebb tide turned, and that country's monthly reports have since shown not only a steady increase, but one that has slowly eaten into the \$300,000 advantage which stood to our credit when the year opened. The ratio of gain indicates with reasonable clarity that unless the unexpected occurs the United Kingdom will finish the year in second place.

In face of the fact that while we will export, approximately, some \$750,000 worth of bicycles to the two countries in question, they are shipping nothing to us in return, the situation indicates that the Germans and Britons are really entitled to more credit than mere figures convey. In other words, our domestic trade is not beset by foreign competition, while our rivals must meet or make allowances for our competition and cannot really call their home trade entirely their own.

The causes contributing to this country's backsliding are not many, and most of them are apparent. When we were underselling

the world trade came to us "almost in spite of ourselves," to use the language of an American now in business in Buenos Ayres, whom we recently quoted. When our competitors learned how to reduce manufacturing costs, and with time, distance and selling costs all in their favor, it was natural that they should make inroads on our trade. But the chief cause—the cause that is greater than all others combined is, to employ a vulgarism, that the American trade has simply "laid down." It has drawn in its horns and in dispirited fashion seems willing to accept what should not be considered the inevitable. Foreign buyers are welcomed with open arms, and if letters (written in English) will obtain orders, letters are and will be written. But, generally speaking, there the effort ends.

The spirit to "get out" and work for the business and to spend money in the effort to get it is lacking. There are those who many maintain that the incentive also is lacking, but while Germany and England are able at this time to increase their business and to amass an export trade of say \$6,000,000 per year, no never-say-die American can say that the game is not worth the candle. England's Colonial possessions appear to be the sources of its greatest increase, but it is the hardheaded and persistent German who is making the real effort. He "goes after" business, and that he gets it and knows how to get even when oceans are to be crossed, the fact that German bicycles are dominating the South American market attests. He may growl at foreign competition and appear pessimistic, but he rarely "lays down" as we have done. He has been trained to a different school.

We have learned how to manufacture. It is now directly "up to" us to learn how to sell.

When Honesty was Policy.

That times does work curious changes not only in methods but in men we all know. That the changes have not been all for the best is as evident. In the matter of job lots, for instance, common honesty is too often at a premium.

But it was not always the case. There once were those who had the courage to tell the whole truth. An example of the sort recently came to the surface in the shape of this advertisement of Rouse, Hazard & Co., which appeared in the *Bicycling World* in April, 1892:

"As we advertise extensively to sell at 'less than maker's list,' we feel called upon

to explain our position. Our 'Less Than List' goods in either cycles or sundries are invariably one year or more old types of standard goods bought outright as 'remnants' from the makers, and are advertised and sold by us at discounts way below former prices. These goods are preferred by many on account of the low prices, contain just as good material and workmanship as the latest patterns, and are very desirable. We decline to be classed with the 'cutters and slashers,' but prefer to build up our business on a 'live and let live' basis rather than on the 'cut throat' policy."

Contrast this advertisement with some of those that now appear and that have appeared during late years and if you do not pray for a little more common honesty of the sort it will be surprising.

The *Bicycling World* is very much exercised in its mind as to the "predilection of foreign cyclists to litter and encumber their mounts with the unseemly and unnecessary collection of wires, rods, levers and the like, that foreign brakes call into use." . . . But for the confidence afforded by these brakes, the joy of flying hills would be denied to all but reckless youth.—*The Cyclist*.

Tut! Tut! We have hills in plenty over here and the coaster brake permits them to be "flown" with safety. There's something the matter with your confidence.

England is coming on. Having been adopted by the leading manufacturer there, the flush joint frame is now being boomed as a "real advance in cycle construction," and as "the smartest and strongest frame that can be made." When this assertion was made by the American trade but a few short years ago our cousin across the sea pooh-poohed the frame and set down the assertion as "Yankee bounce."

Incongruity does not, apparently, worry those interested in a new Western concern. The sale of bicycles and sporting goods and the operation of a farm where Belgian hares will be raised on an extensive scale, are the objects of their association. There's nothing like having more than one string to one's bow.

Belgium appears to have fairly captured Great Britain in the matter of bicycle motors. The Minerva motor, which appears to be practically the only one in use on bicycles in the "tight little isle," is a Belgian product. Are American motor manufacturers sleeping?

BRITISH MOTOCYCLE BOOM

England's Biggest Makers Announce That They will Build Motorcycles.

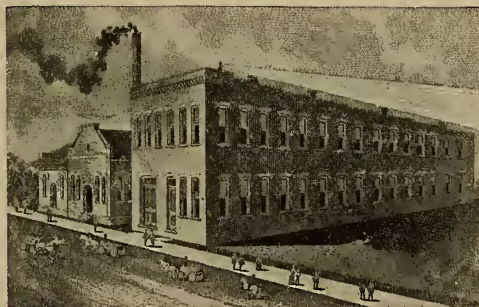
London, Oct. 23.—Not less than twenty-three well known cycle manufacturing firms will make motor bicycles next year; in many cases the designs are well in hand, so that the machines will be on view at the forthcoming cycle shows. Some little surprise has been caused by the statement that the Raleigh Cycle Co., Ltd., are about to compete for a share of the support which will undoubtedly be accorded to this class of machine, but as a matter of fact the firm has been experimenting for some little time. I believe that the Raleigh motor bicycle will be somewhat of a departure from the ordinary type, and that the motor will be placed fairly high and will not be a Minerva. From what I can gather I think that the engine will more resemble a Werner, but it will drive the rear wheel. It may possibly transpire that the motor is a Werner, for I am told that these engines will be sold separately next season. Anyway, the fact that so experienced a cyclist as G. P. Mills has definitely decided to place the motor high up is a point in favor of that position which should not be overlooked by those people who believe so much in keeping the weight low down.

It has now become quite clear that the Automobile Club is desirous of dropping the connection of such mere worms as motocyclists, for it has practically done so by stating that motorcycles can be exhibited at cycle shows, and that such exhibition will not render the firms showing the machines liable to be refused space at the club's own show. It has for some time past been pretty evident that the club does not regard the motocyclist with much favor, and I fancy that the same thing applies to owners of small cars. The fact is that some of the officials are suffering from tight hats, and are pinning too much faith on the aristocratic support accorded to the club. They should, however, remember that no patronage is so fickle as that of English society people, who try every new thing in turn, not out of love for it, but simply to kill time.

In common with many who are drivers of cars, as well as motocyclists, I can fully appreciate the fact that the two classes of machines do not go well together on club runs. The motocyclists hamper the movements of the drivers of cars, while, on the other hand, the dust thrown up by the larger vehicles is most unpleasant to the motocyclist. But this is hardly the point. The Automobile Club is supposed to be the ruling body of motorists here; who appointed it so does not appear, but it probably bases its claim upon having grown into the position. Well, as the ruling body it should look after

all sections, and not be ready to shelve one particular branch in which its officials are not so personally interested. It is no doubt a very good thing for motocycling that motorcycles will be allowed to be exhibited at the forthcoming shows, because the machines will find more buyers at the cycle exhibitions than they would do at purely motor car shows, where they would probably be relegated to an out-of-the-way corner. But I hardly fancy that the officials of the Automobile Club had this fact in their minds when they passed the resolution, and the comments of motocyclists on the matter all lead to the conclusion that it is the general opinion that the club means to dispense with that branch of its membership.

This being the case, there may be some reason for the fact that the recently formed motocycling club is formulating a scheme for registration under the Company act. It seems to be felt that the day is not far distant when the club will have to practically take over the management of motocycling



NEW FACTORY OF THE ADMIRAL LAMP CO.
AT MARYSVILLE O.

matters. At the same time, it has been pointed out that the feeling of the meeting was distinctly against the notion of forming the club into a limited liability concern, but rather to keep the organization upon purely social lines. A general meeting of the members will probably be called to consider the subject once more, as many of the committee seem in favor of registration, and the action of the Automobile Club may clinch the matter.

The roads are now in such bad condition that very little active motocycling can be done, but the few rides I have lately taken have convinced me that for winter work when the roads are greasy it is necessary to use a machine on which the rear wheel is the driver. On the other hand, such machines do not give me the impression that they are quite so fast as the Werner type, but speed is by no means everything, because the majority of those people who are buying motorcycles are men to whom an average of twenty miles an hour seems a very high rate of travelling. It is for this reason that I think the present type of motor quite powerful enough for the requirements of the general public, and I fancy that many of the firms are committing a grave commercial

error in using engines of large power, especially if these larger motors mean increased price, which is most certainly the case at present. I should say that there will be a good many motor bicycles sold at the shows, providing that the prices can be kept reasonably low. The public will buy at a reasonable figure, but do not care to put down large sums for what most people at present look upon as more or less experimental machines.

It is rather curious that many of the motor bicycles now sold are fitted with wet accumulators, whereas the majority of motor tricycles and quads are provided with dry batteries. I have often pointed out that the accumulator gives the better result and is cheaper in the end, but the electrolite is apt to spill unless the machine be always kept in a vertical position. On greasy roads this is sometimes rather more than the motor bicyclist can manage; and, this being the case, one would really suppose that dry batteries are better for two-wheelers.

Good Advice From an Expert.

For ourselves, we have had experiences of motor cycles extending over many years, and have had, perhaps, unique opportunities of finding out the merits and demerits of the various types and classes, says R. J. Macready, of the Irish Cyclist. We have not the slightest doubt about the future of the motor bicycle, and from absolute experience can recommend them to all who can afford their purchase. But the history of the cycle trade shows that it takes more than a season to bring about any change, even of a trifling nature. Free wheels did not catch on for years. Even long after we had tried and found out the value of the fitment, there were many experts who professed to see nothing in it. Variable gearing is a cheaper and simpler addition to a bicycle than an engine, yet years have gone by, and it is still not generally accepted. We therefore urge caution on the makers of motor bicycles, as overproduction in this class of machine cannot but be a serious matter.

The Retail Record.

Aurora, Ill.—H. C. Althoff has removed to La Salle and Fox streets.

Southampton, N. Y.—William Wooster succeeds L. C. Leary.

Bay City, Mich.—Allen & Hopkins, closed.
Monroe, N. Y.—Smith & Strehl succeed John D. Bouton.

Davenport, Neb.—E. Sedgwick succeeds F. H. Patitz.

Wellesley, Mass.—J. A. Purcell & Son, closed for the season.

Norway, Me.—C. L. Cummings has opened a repair shop.

Rockland, Me.—H. F. Additon, closed.

Concord Junction, Mass.—A. D. Brochu, removed to Main street.

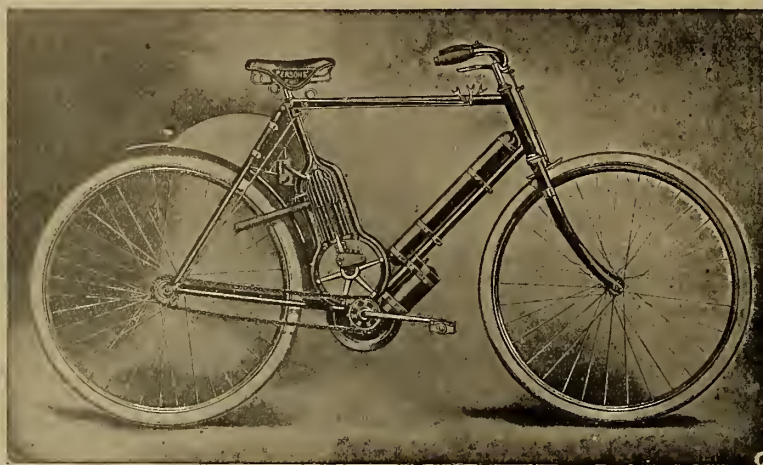
Manchester, N. H.—Leon F. Bacon has filed petition in bankruptcy, with liabilities of \$400.12 and assets of \$22.25.

Chatham, N. B.—L. W. Barker, new store.
Akron, Ohio.—J. H. Saelzler, removed to Adams and Eleventh streets.

"If a thousand old beliefs are ruined in our march to truth, we must still march on."

The Royal has Ruined

quite a few of them—we mean the old beliefs regarding motor bicycles. Facing truth, it is not too much to say that the Royal is really the only motor bicycle on the American market; for where can you find another that is more than a bicycle to which a motor has been bolted?



The Royal Motor Itself

and its mixer and its muffler and nearly all other parts have also ruined beliefs. They are unlike the others. They are nearer the truth—nearer the ideal. And we will still march on. We have an advance catalog that deals with these truths. It is worth asking for.

ROYAL MOTOR WORKS,

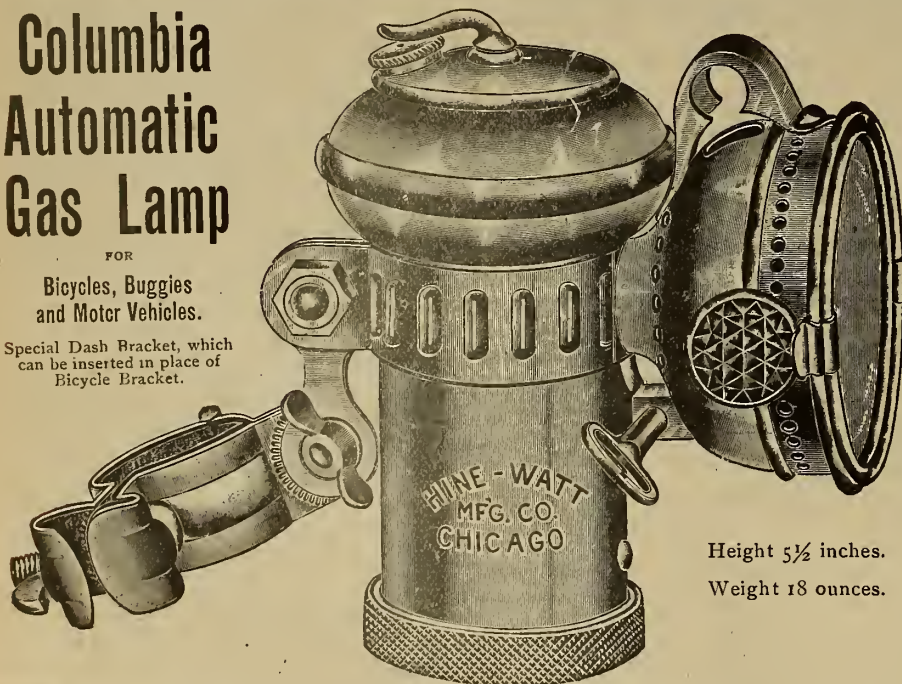
CHICOPEE FALLS, MASS.

Columbia Automatic Gas Lamp

FOR

Bicycles, Buggies and Motor Vehicles.

Special Dash Bracket, which can be inserted in place of Bicycle Bracket.



Height 5½ inches.

Weight 18 ounces.

EXCLUSIVE FEATURES

The result of years of experience and experiment in Acetylene Gas Lamps, and has had two years of unparalleled success.

Positive automatic water feed, i. e., the water feed is positively controlled by the gas pressure, which is regulated by a gas cock.

No carbide wasted. Charge can be used repeatedly until exhausted, the same as in an oil lamp.

Lights at once. Turns down or out at once.

Gas generated at low pressure, thus avoiding danger common to high pressure lamps.

Uses one-half the carbide necessary in a large lamp, and gives as good a headlight as the best.

Carbide cup is as easily charged and cleaned as a tea cup. Mechanism strong and mechanically correct.

5000 of these Lamps in use on buggies, carriages and motor vehicles in Chicago this year.

OUR GOODS ARE SOLD ON THEIR MERITS ALONE. IT IS NOT NECESSARY FOR US TO OFFER PRIZES.

WE MAINTAIN PRICES. WE CARRY THE STOCKS OURSELVES AND YOU CAN RETURN SURPLUS LAMPS AT END OF SEASON.

Fine Art Calendar for 1902 mailed free to the trade on receipt of letter head and six two-cent stamps.

HINE-WATT MFG. CO.,

60 WABASH AVE., CHICAGO, ILL.

FAULTS OF EXPORTERS

Consul Neuer Returns to the Subject and Offers Some Good Advice.

"I am constantly in receipt of letters, catalogues, etc., from our manufacturers and export associations, wishing to introduce American goods into this district and requesting the names of reliable purchasers," writes Charles Neuer, United States Consular Agent at Gera, Germany. "Inquiries are made by this office and information is promptly given.

"In order to find out whether my work had led to satisfactory results, I called of late on some prominent merchants here, and while it gave me pleasure to learn that my endeavors had been partly successful I was told that our exporters were at fault in some respects. It is for this reason that I submit the following as the most interesting part of my interviews, to serve for the information and guidance of our shippers.

"In the first place, it is admitted that our manufactures excel in variety, beauty of style and adaptability all others wheresoever made. Letters, circulars, catalogues, etc., in English are, however, of almost no value, and those who desire to secure this market for their goods must pursue the methods that are principally used here. The most effectual means would be the canvassing of every city and town by intelligent agents with samples of the goods they sell, and with full knowledge of every detail of their special lines, so as to give all information desired. A careful study could in this way be made of the tastes and peculiarities of the region, and full particulars of the requirements of this market could be sent home. Moreover, careful inquiries could be made with regard to financial standing of buyers.

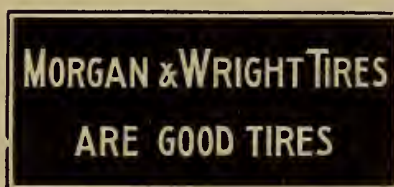
"My attention was also called to the disinclination of many of our manufacturers to adapt their fabrics to the habits and tastes of other countries. They are averse, it seems, to deviating from their usual sizes, forms, etc., though it would seem that when a new market for certain articles is to be acquired the goods should be made to suit the wishes of the purchasers.

"Moreover, it was said that American manufacturers are often anxious to make large sales at the start, without considering that new articles can be introduced to consumers only by the expenditure of much patience and perseverance.

"Great fault is found with our terms of credit. While the business in this country is mainly done on terms varying from three to six months' time, our merchants insist in many cases on cash on delivery, and even before delivery, so that receivers are unable to examine goods before payment and cannot know whether the shipments are in accordance with orders or not. Of course, the demand for cash on receipt is well justified if the purchaser's financial standing is of a questionable nature; but I know of first class

German houses that have been subjected to the same rigid terms, causing a discontinuation of purchases and material losses to our trade.

"Another point one of my informants laid stress on was the packing of our goods; the greatest precaution should be used in this regard. Care should be taken to prevent breakage, and no old or damaged cases should be used. As the customs duties are levied here on the gross weight, less a certain percentage for tare, the advantage of lightness in packing is essential. Manufacturers who ship goods to this country should thoroughly acquaint themselves with the German tariff, and pack their goods in such a manner as to save the purchaser trouble and useless expense. For instance, a much



NEW YORK BRANCH: 214-216 WEST 47TH STREET.

higher duty is charged on nickel plated iron than on cast iron stoves. American shippers of stoves will therefore act wisely if they separate the nickel plated parts and pack them in one case and the heavy iron parts in another, so as not to have the receivers pay the higher duty on the entire weight. The same is true of many other articles."

Influence of Empty Boxes.

An enterprising Connecticut house, desiring to increase their sales of a certain line, after placing a large order with the manufacturer's representative, made the request that they be loaned a couple of gross of the empty collapsible boxes in which the article is packed, says an exchange. These were gladly furnished, and were placed in the show window, almost filling it. The effect produced was striking. An attractive card called attention to the fact that the store carried the largest stock in town of the article shown. Many people came in and made purchases, the remark being frequently made that they did not see how such a large stock could be sold in years. This method of calling attention to goods is not a new one, but where it has not been used it may perhaps be worked to advantage.

CREATING A STANDARD

How Some Have Been Affected—The Good and Bad Results of Standardization.

The engineer who would inaugurate a system of standardization in his manufactures must possess great courage, a stubborn will and much constructive ability, says an exchange.

It is possible, to some extent at least, to buy advice and assistance in the production of designs, and in carrying them into effect, but the master of an establishment must bear on his own shoulders the responsibility of determining the policy on which it shall be run. The profit or the loss will be his, and, however willing and anxious he may be to take advice, the decision and its consequences must rest with him.

In general it takes much courage to adopt a system of standardization, because it involves the laying out of large sums of money with no certainty of return. It is only in the case of a patented article of assured utility that the step is easy. In such instances as the Westinghouse brake and the Willans engine standardization was natural from the beginning; each of these articles was sui generis, and was judged as a whole. Probably no one felt competent to suggest alterations; certainly no buyer would take the responsibility of insisting upon them, because in the early days it was sufficient of a venture to try such novelties without introducing untested features into them.

The incandescent electric lamp industry furnishes another instance of standardization growing up without effort. There was practically only one maker in this country for many years, both of lamps and holders, and the company naturally kept to a particular pattern. When the patent expired other makers were obliged to follow the same design in order to make their lamps fit existing holders, for it was only in that way they could obtain a footing in the market.

It is a highly speculative matter for an engineer to enter upon a system of working to standards. He is not an autocrat who can dictate to the public what they shall buy; he can only persuade, and the argument which alone is of much weight is one addressed to the pocket. Customers will not sink their individual preferences except to gain a distinct advantage; they must be better served either in regard to quality or price, or to both, before they will modify their own premises or their own system of manufacture to bring them into harmony with the tools or appliances they buy; instead of having the latter designed specially to suit their convenience.

A business in standardized articles can never cover a wide field. A multiplicity of types and patterns is alien to its fundamental idea. Systematized manufacture can only be carried on properly by taking advantage of the skill which is evolved by constant repetition of one set of operations and by the economy attending the use of tools designed for one purpose only.

Mr. Jobber

and

Mr. Dealer

OUR ELEGANT LINE OF
BICYCLES FOR 1902 IS

NOW READY

Prices Lower Than Ever
Quality "Second to None"

With our new factory covering an acre of ground and our improved facilities we can meet all demands and are the largest independent manufacturers in the west.



Jobbing
Wheels
Our
Specialty



WRITE US.

ARNOLD, SCHWINN & CO.

WORLD CYCLES.

945 to 957 North 43rd Ave., CHICAGO, ILL.

ANNOUNCEMENT

WOLFF-AMERICAN

AND

REGAL

Bicycles for the season of 1902 are now ready. These well-known lines of wheels are replete with new and meritorious features.

Our salesmen are on the road showing new models and offering a proposition that is right.

It will afford us pleasure to hear from dealers who are interested.

STEARNS BICYCLE AGENCY,

General Distributors,

SYRACUSE, N. Y.

FACTORY METHODS

Some Foreign Practices That Work in Favor of American Manufacturers.

The conditions of "life, liberty and the pursuit of happiness" are so vastly different in Europe and America that they cannot be ignored when commercial supremacy is discussed, says a writer who has given special attention to this subject. No ways and means, retaliatory tariffs, or adoption of American tools, will be of any avail. The balance of trade will always be in our favor so long as we maintain the integrity of our institutions.

I have said that the ways of living are different abroad. To illustrate my meaning, suppose an American works transported bodily to England (as a country where practically the same language is spoken) in a night, the men leaving off work in this country and beginning again the next morning in England under English shop rules and working hours. How would the output compare with the day previous in America? I am free to assert that it would be much less, not merely from the unfamiliarity with English ways, but from the brake that would be put on by English methods.

The working hours are cut into segments, and the speed of production regulated by that of the slowest mule in the team; if Hodge can turn only so many feet of shafting per hour no other man must turn any more. That restriction would of itself throw everything out of gear so far as an American workman was concerned.

Another one is that English shops commence work at 6 A. M., stopping at 8 for breakfast, beginning again at 9. That is to say, at the very time—the early hours—when the men are at their best, most alert and capable, they cease work. The machine tools stop. That is a condition of things which would not be tolerated one moment in an American shop, but it is the custom and therefore sacred in England.

There is no reason whatever for the loss to the firm, because, although the same number of hours nominally may be worked weekly, there is loss by reason of the interval transpiring between stopping and starting in full work again. There is at least five minutes lost on each machine tool, and much more than this with fitters and erectors, who have an inordinate amount of gossip to exchange upon what shreds and patches of happenings they may have picked up during the breakfast hour. A workshop is not a penal institution, and it is impossible for an overseer to be behind every man to find out what he is talking about.

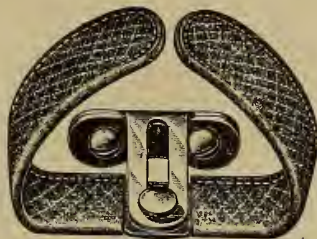
Suppose a force of 300 men only, and 100 machine tools; under the conditions named the unproductive time would be 33 hours per working day, or nearly 20 working days in the whole week. This is a long price to pay for the interruption of the working

hours, and must be directly charged to that custom. Were it not for it the men would keep on working, and their attention would be confined to their jobs instead of being diverted from them. When the machine tools stop in an American works, even to lace the main belt, which may have parted, it is regarded as a serious matter.

Most foreign observers admit that American shops turn out more work per capita than their own, and they try to account for it by the assertion that our men are driven as a collie drives sheep. We certainly work harder, but we are compelled to by the foremen, who occupy much the same position that the keeper in a State prison does, sitting upon a high stool where he can see all that goes on and admonishing laggards severely.

It is hardly necessary to say that this is

The Royal toe clip, shown by the accompanying illustration, is one of the productions of the Bevin Bros. Mfg. Co., Easthampton, Conn., for the 1902 trade, and is really



the handsomest article of the sort turned out. It is of metal, covered with fine pebble leather, supplied in assorted colors. It is adjustable to the length of foot, as shown, and is provided with either one bolt or two, as desired.

an erroneous conception; there is no coercion or intimidation of any sort in American shops, but the work proceeds because the foremen and others over him plan the series of operations before it is undertaken.

Quite the contrary obtains in England, where, if a "Consulting Engineer," writing in *Engineering*, is correct, the men take what they like to do the best upon any given machine, work a little while upon it, get tired of it, then throw it aside for something else. The writer mentioned says that he found he could not make any money by this way of working, and therefore abandoned it for American methods pure and simple, since which time he has gone ahead rapidly.

Spread of Cycling in Siam.

The Indian Daily News, in an article on "The Bicycle in Siam," says: "The bicycle has come to Siam to stay. It is finding its way into the outlying cities and villages, and as a means of civilization it is bringing with it better roads and better means of communication. The American wheel is by far the favorite in Siam, representing between 75 and 85 per cent of all the bicycles used in the kingdom."

If You Are Interested in Automobiles



WILL SURELY INTEREST YOU.

It is published for the information of the average mortal; no dictionary of mechanical terms is needed to understand it.

PUBLISHED EVERY THURSDAY
AT 123-125 TRIBUNE BUILDING,

NEW YORK CITY.

\$2.00 PER YEAR.
10 CENTS PER COPY.

SAMPLE COPY ON APPLICATION

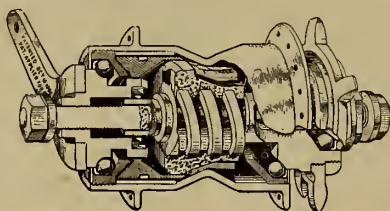
YOU CANNOT AFFORD TO TIE YOUR HANDS.

THE CINCH COASTER BRAKE

IS SUPERIOR TO ANY OTHER IN

.. OPERATION ..

.. APPEARANCE ..



.. DURABILITY ..

.. WORKMANSHIP ..

THE ONE THAT COASTS.

Actual Trial Will Surprise You. Send for Sample.

We do not fear competition, and only ask *comparison* of the Cinch with others. You may catalogue the Cinch with any other and get our lowest price. Don't close until you have it.

RIGGS-SPENCER COMPANY,
Manufacturers,
ROCHESTER, N. Y., U. S. A.

C. J. IVEN & CO.,
Exclusive Selling Agents for United States and Canada,
ROCHESTER, N. Y.

THE BICYCLE FITTINGS

MADE BY
THE H. A. MATTHEWS MFG. CO., SEYMOUR, CONN., U. S. A.,

are pronounced by all who have used them to be the most accurate ever manufactured.

OUR CUPS

are hardened by a special process, and the hardening is perfect.

We make

STAMPED CONES

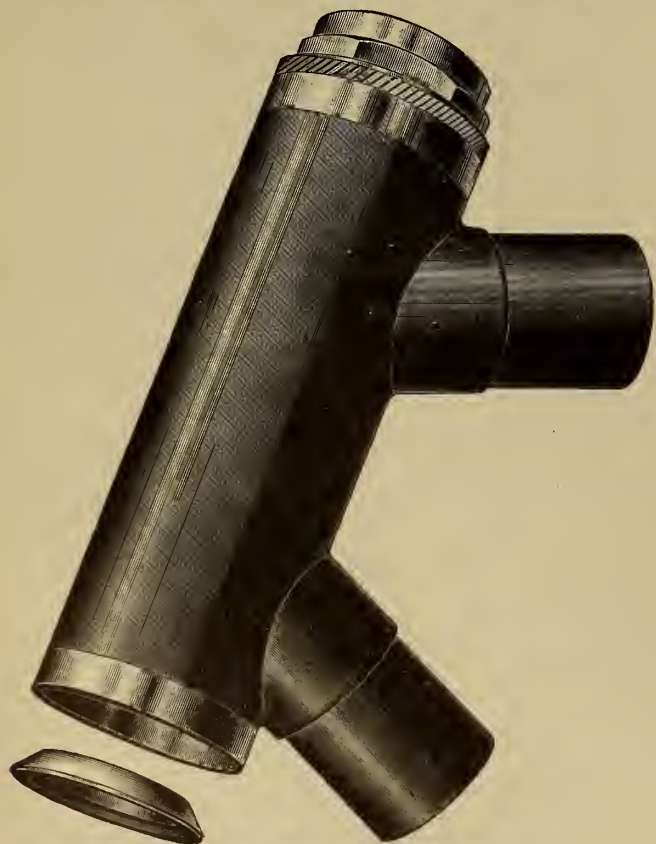
(patented) the best in the world.

Estimates from Drawings or Blue Prints furnished.

Give us a trial when you need any

SHEET STEEL STAMPINGS.

Send for Catalog and Price Lists.



FLUSH HEAD SET AND HEAD, 1 1-8 BRANCHES.

Motor in a Case.

"La Motosachoché," the French motor which was described in these columns some little time ago, is now being marketed in England. If the device works as well in practice as it is attractive in theory it should have a great sale. As will be recalled, it is a motor complete, contained in a case which fits into the frame of an ordinary bicycle, the engine being placed just above the crank hanger.

To 6 quarts of soft water put in one ounce of corrosive sublimate, and common salt, two handfuls. When dissolved it is ready for use. The first gives toughness to the steel, while the latter gives hardness. The liquid is a deadly poison.

As applied to those who ride
rigid frame bicycles, the

Familiar Prescription,

"Shake well before using,"
may justly be paraphrased,

"Well Shaken
While Using."

There are many cyclists, male and female, who would not take such "medicine" if cycle dealers made proper use of the cushion frame—if they demonstrated to the public that "to be well shaken"—to be bumped and bounced, jarred and jolted, is not a necessary concomitant of bicycle riding.

Like the rigid frame,

It is Hard

to understand why every dealer does not appreciate the fact. The average man and the average woman appreciate their comfort a wheel or at home. They can get it on a cushion frame bicycle, and the dealer who preaches the cushion frame doctrine not only adds to his profits but adds to the comfort and satisfaction of his patrons.

HYGENIC WHEEL CO.,

(Owners of Cushion Frame Patents.)

220 BROADWAY, NEW YORK

RACING

Charles Welden and Harold Melby, of Minneapolis, on October 28 broke the national fifty mile tandem record and established a twenty mile standard record. The ride was over the Hanson course. They rode fifty miles in 2:17, breaking the record of Wright and Fairley, of Colorado Springs, which has stood at 2:21:10 since June 20, 1897. The twenty miles were ridden in 0:52.

Miller, the three time winner of the six day cycle contests in Madison Square Garden, has returned to this country and will compete in the six day race to be held in December, provided a suitable team mate can be found. Maya and Wilson, McEachern and Walthour, and Babcock and Turville will also ride. The foreign element will be represented by Gougoltz and Simar, Muller and Lepoutre, and Fisher and Chevallier. De Roeck and Kerff, two Belgians, will make their American debut. It is thought that Gascoyne and Green will represent England.

Half a hundred riders battled for victory in the twenty-five mile amateur bicycle race at Vailburg, October 3. It was an exciting contest, made so by the large number of contestants, the hot fight for the lead and two spills, which put a dozen riders out of the race. Billington won the event in 1:3:50; Dove second, Courter third and Chappey fourth. Ferguson won the largest number of laps, and Achorn the second largest number. In the half mile professional match race, best two in three heats, between Krebs and Wilson, Krebs won first heat in 2:50, and second heat and race in 3:41.

At Vailsburg on Sunday, Albert Champion continued his record-breaking; this time he set new figures for motor bicycles from the two-mile mark all the way up to ten miles. His first mile was run in 1:15, as against his own record of 1:12 2-5; after that he cut under all figures clear to the end. At five miles he was a second and two-fifths better than his own record, and the subsequent figures set new standards for the world. His time by miles was as follows: First, 1:15 1-5; second, 2:31 1-5; third, 3:47 4-5; fourth, 5:05 2-5; fifth, 6:22 3-5; sixth, 7:39 1-5; seventh, 8:56 1-5; eighth, 10:13 1-5; ninth, 11:30 1-5; tenth, 12:47 1-5.

Protection From the Weather.

It would not be easy to imagine anything less likely to be a money maker than an arrangement on which an Englishman has taken out a patent. It is nothing more or less than a weather screen for cycles and other conveyances, comprising a waterproof cover or apron combined with elastic steel stiffening bands, tie rods or stays for holding the device in the desired curved position, and means for holding the screen in place, which comprise bands or clips which open in collapsing the sides of the screen.

**You May
Judge a Man**

by his clothes, according to a precept.

**You May
Judge a Bicycle**

by its saddle, according to our experience.

Many cheap saddles look good (until used a few weeks), and cost little. Many pennies may, therefore, be pinched from the cost of a bicycle by the use of a cheap seat.

**Learn the Price
of the Best Leather**

and you will get a fair idea of what it costs to manufacture a saddle like this:



You will find that the leather alone costs more than the entire saddle of other makes. That is the one big reason why some cycle manufacturers prefer the "others" and why the Persons is never found on a cheap bicycle.

The Dealer Who Pays

for a high grade bicycle is, however, entitled to a high grade saddle. The grade of the Persons is the highest of the high. It is simply impossible to make a better one. If you desire to "get a line" on the policy of the manufacturer whose bicycles you sell, specify Persons saddles when you give your order. His response will enable you to judge how his bicycles are built and how they are equipped.

If you desire to know anything more about the Persons saddle, write us.

Persons Mfg. Co., Worcester, Mass.

"Have a Look;
It Costs You Nothing."

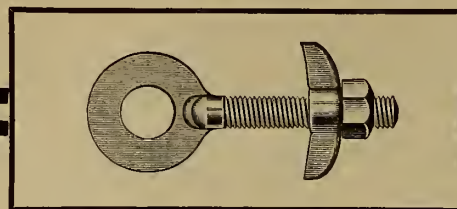
1902 YALES NOW READY.

Cushion Frame Chainless — Racer —
Pace-Follower.

TRAVELERS ON THE ROAD.

The \$35 Yale is the "Best Ever."

THE KIRK MFG. CO., - TOLEDO, OHIO



Bicycle Accessories

ELECTRIC WELDING

Keep us in mind when you
are about to order.

THE STANDARD WELDING CO., CLEVELAND,
OHIO.

1902 SNELL BICYCLES.

NEW MODELS.

TRAVELERS STARTING OUT.

WAIT FOR THEM.

1902 HUSSEY BARS.

NEW HUSSEYS.

THE SNELL CYCLE FITTINGS CO.

TOLEDO, OHIO.

HOT SPRINGS OF ARKANSAS.

The Hot Springs of Arkansas, owned and endorsed by the United States Government for a cure of a score or more of human ills, including rheumatism, catarrh, neuralgia and nervous troubles. Splendid winter climate; two hundred hotels of all grades. These springs are best reached by the

NEW YORK CENTRAL LINES

and their connections.

Ask nearest ticket agent for reduced rates and other information.

A copy of No. 5 of the "Four-Track Series," "America's Winter Resorts," will be sent free, postpaid, to any address on receipt of a postage stamp, by George H. Daniels, General Passenger Agent, New York Central & Hudson River Railroad, Grand Central Station, New York.

The Week's Patents.

685,367. Combination Air and Gas Engine. Charles A. Anderson, Erick A. Erickson and John Wickstrom, Chicago, Ill., assignors to the Chicago Motorcycle Co., Chicago, Ill., a corporation of Illinois. Filed March 27, 1899. Renewed Feb. 20, 1901. Serial No. 48,172. (No model.)

Claim.—1. The combination of a cylinder having a heater at one end, and provided with a port for the passage of air and a mixture of air and gas and an exhaust port with power piston and a displacer piston, located in said cylinder, and means to supply an explosive mixture of air and gas to the cylinder between the pistons thereof, substantially as described.

685,404. Sparking Igniter for Explosive Engines. August Krastin, Cleveland, Ohio. Filed July 7, 1900. Serial No. 22,809. (No model.)

Claim.—1. In an electric igniting appliance for explosive engines, the combination, with a plug thereof, of a set of arched interlocking electric wires, projecting from out of said plug, an insulating tube within said plug and an electric wire extending through said tube, within suitable distance of said arched wires, so that a spark may jump from one to the others for the purpose of igniting the charges in such engines.

685,424. Luggage Carrier for Bicycles. Thomas Main, Leamington, England. Filed March 18, 1901. Serial No. 51,589. (No model.)

Claim.—1. A luggage carrier for bicycles and similar vehicles comprising a frame consisting of parallel side bars composed of

separate sections pivotally connected at the middle of the frame so as to allow said frame to fold upwardly, said frame being adapted at one end to be connected with the rear upright rods of the frame of the vehicle, and being provided at the opposite ends with pivoted rods which are also adapted to be connected with the said rods of the frame of the vehicle, substantially as shown and described.

685,491. Composition for Mending Punctures in Pneumatic Tires. Lewis D. Scott, Friendship, and Robert B. Nephew, Hornellsville, N. Y. Filed March 9, 1901. Serial No. 50,425. (No specimens.)

Claim.—1. The herein described composition of matter, consisting of rye flour, land plaster, plaster of paris, molasses and corrobod and having external ribs for engaging the walls of a valve chamber.

685,649. Tire or Other Valve. George H. F. Schrader, New York, N. Y. Filed April 8, 1897. Serial No. 631,250. (No model.)

Claim.—1. The improved valve proper for tire and other valves, comprising a body of packing material, and a casing inclosing said closing said body and having external ribs for engaging the walls of a valve chamber.

2. The improved valve proper for tire and other valves, consisting of a body of packing material, and a sheet metal cup inclosing and holding said material, and having outwardly bent projections in its side walls, substantially as and for the purpose set forth.

3. The improved valve proper for tire and other valves comprising a carrier having a hole through a guiding tail passing into said hole at one end of said carrier, and a packing material held at the other end thereof.

Going West?

If you purchase your tickets via the Nickel Plate Road, the shortest route between Buffalo and Chicago, you will secure the best service at the lowest rates. Three fast thru express trains daily, in each direction, between Buffalo, Erie, Cleveland, Ft. Wayne and Chicago making close connections at the latter city with the fast trains of the Western roads. The trains on the Nickel Plate Road consist of elegant vestibuled day coaches, sleeping cars of the latest models, and Nickel Plate dining cars serving famous individual club meals at rates from 35 cents to \$1. Thru sleeping cars are also run from Boston, New York, Albany, Syracuse, Rochester, Scranton, Binghamton and Elmira, and many other Eastern cities.

If your ticket agent cannot give you the information desired, address F. J. Moore, General Agent, Nickel Plate Road, 291 Main St., Buffalo, N. Y.

First of the Catalogues.

The first of the 1902 catalogues to make its appearance is that of the Bevin Bros. Mfg. Co., Easthampton, Conn. Bound in a cover of green and gold, it illustrates and describes the full line of Bevin bells, toe clips, lamp brackets, etc., including several new patterns, in a manner that makes the book one to be kept near at hand.

WHEN YOU BUY

Why not

BUY THE MEDAL WINNERS?

They cost no more than common, every-day tires.
In other words, why not buy

THE PENNSYLVANIA TIRES?

They Received

THE ONLY GOLD MEDAL

awarded tires at the Pan-American Exposition.

CATALOG AND PRICES ON REQUEST.

PENNSYLVANIA RUBBER COMPANY,

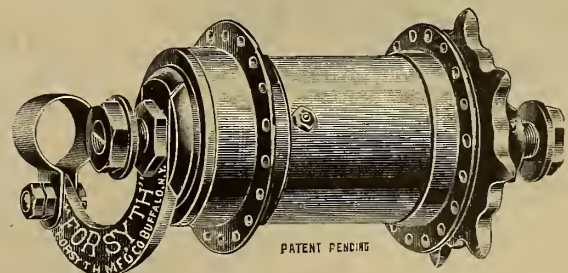
ERIE, PA.

SUICIDE ! SUICIDE ! SUICIDE !

The Manufacturer or Jobber who BINDS himself by CONTRACT to oppose improvements in Coaster Brakes simply commits commercial SUICIDE.

“THE FORSYTH”

is a WINNER and THE RIDER is bound to “HAVE A LOOK” when IT'S ALL OFF with the other make.



No Friction. Spins Like a Top. Thoroughly Adjustable.
INVESTIGATE.

FORSYTH MFG. CO.,

BUFFALO, N. Y.

THE SUN NEVER SETS ON THE AUTO-BI.



Go to any country you will in this world—go through the United States and Canada—go to Mexico, Yucatan, Cuba, Porto Rico, Bermuda, Trinidad, Hawaiian Islands, Great Britain, Netherlands, Holland, Russia, Germany, France, South Africa, India, Japan, China, Java, Straits Settlement, New Zealand, all of the Australias—travel in any of these countries and you will find the

AUTO-BI.

When you ask for the best motor bicycle you know what to reply. The above is some of the evidence.

We Use Thomas Motors Exclusively.

AUTO-BI COMPANY, 106 BROADWAY, BUFFALO, N. Y.

Schrader Universal Valve.

(Trade Mark, registered April 30, 1895.)

NOTICE.

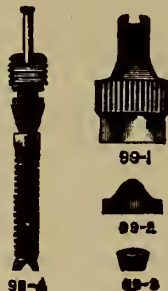
Manufacturers of Bicycles, Jobbers and Dealers:

In order to facilitate the obtaining of

PARTS of the Schrader Universal Valve,

I have concluded to sell parts only to the general trade.

Parts 99-1, 99-2, 99-3, 99-4, may be had from all the makers, or from A. SCHRADER'S SON. Price List and description of parts sent on application



SIMPLE AND ABSOLUTELY AIR-TIGHT

Manufactured by

A. SCHRADER'S SON.

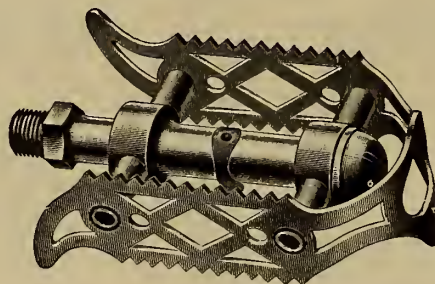
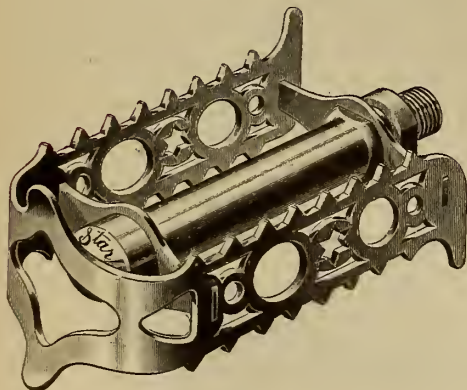
ESTABLISHED 1844.

**30 and 32 Rose St.,
New York, U. S. A.**



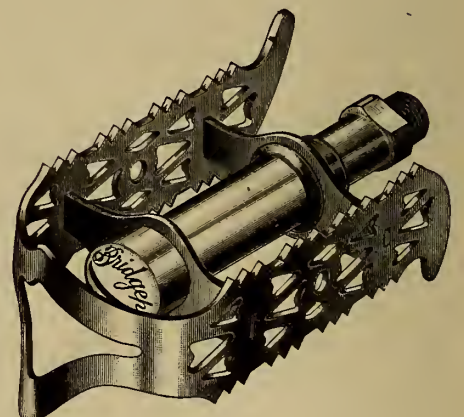
Star Record Bridgeport

PEDALS



**1902 Models
Now Ready.**

PEDALS



SEND FOR QUOTATIONS.

The Bridgeport Gun Implement Company,

313-317 Broadway, New York.

The Bicycling World

AND MOTOCYCLE REVIEW.

In which is incorporated "The Wheel and Cycling Trade Review" and the "American Cyclist."

Volume XLIV.

New York, U. S. A., Thursday, November 14, 1901.

No. 7

GATES GETS KEATING

Middletown Plant Finally Finds a Purchaser —But no Money Changes Hands.

It really looks as if the much troubled plant of the Keating Wheel & Automobile Co. at Middletown, Conn., is about to find peace at last.

Isaac E. Gates "and associates" of New York, have appeared on the scene, and while their purpose has not yet been publicly disclosed, Receiver Betts thinks so well of it that he has recommended the sale of the property to them, although only paper, not money, will change hands. The Eisenhuth Horseless Vehicle Co., which had an option on the factory, seems to have been lost in the shuffle.

Mr. Betts's attorney applied to the Superior Court on Monday last for authority to dispose of the property, real and personal, except money in the bank, on or before January 1, 1902, to Gates et al., and the necessary order may be promptly issued.

The terms of the sale are: The bondholders are to receive \$70,000 in bonds of Gates Co. in lieu of their present bonds; the holders of the chattel mortgages are to receive \$33,000 and the holders of pledges on wheels \$17,000 in bonds. These bonds are to be a part of a general issue of \$210,000 which are to be issued by the new company, with the building and personal property as security. The balance of the new bonds is to be used to pay receiver's and court charges and the dividend to general creditors that may be passed by the court subsequently.

As 90 per cent. of all the creditors have agreed to the plan the transfer is assured. Mr. Gates is described as a well-known New York financier, and is a brother-in-law of the Huntingtons, the New York railroad magnates. It is added that he stands ready to put \$100,000 more into the plant in addition to the \$80,000 that he has already put up, and proposes to start the plant right away. Mr. Eisenhuth is out of the deal. Just what will be manufactured is uncertain.

The new bonds have their interest for five years at 5 per cent. guaranteed, and this guarantee in cash has been deposited by Mr. Gates.

National Adopts one Inch Tubing.

It is now reasonably certain that smaller tubing will be in fairly general use in the 1902 models.

The National Cycle Mfg. Co., Bay City, Mich., for instance, have adopted one-inch tubing for their entire line. Prices will remain unchanged.

The National line will comprise the following models:

Roadsters	\$40
Cushion frames.....	50
Racers	50
Chainless with cushion frame and coaster brake.....	75

With road tire, the racer is considered adapted for road use.

The use of one-inch tubing is the most apparent of a number of improvements which are naturally of minor importance, but which, in the language of Secretary Finkenstaedt, make "Nationals unlike other bicycles and other bicycles unlike Nationals."

There are rumors of a motor bicycle to come, but of this nothing definite may be stated.

Humber Makes Good Showing.

In view of the fact that Humber & Co. have earned nearly \$75,000 during the year and that a dividend of 6 per cent. on the preference shares has been declared, it would appear that the famous old company has weathered the storm that at one time threatened to engulf it.

Hendee's Figures.

The Hendee Mfg. Co.'s line of Indians for 1902 will comprise the motor bicycle at \$200 and the pedal propelled models at \$25, \$30 and \$35, as marketed in previous years. Hendee will also market a an unpriced bicycle—one to meet any competition that may arise.

Victor Again Disappears.

After "hobbing up" for a season, the once famous Victor bicycle has again been thrown overboard. The J. Stevens Arms and Tool Co., who recurrected it last season, will not continue its manufacture.

Victoria, Australia, will hereafter tax catalogs containing advertising matter; the duty is, roughly, \$1 per pound.

PRICES REMAIN UNCHANGED

No Reductions on Chain or Chainless Bicycles—A. B. C. Uniform Throughout.

Generally speaking, there will be no change in the price of bicycles. It was not expected that the figures on chain bicycles would be altered, but there was a vague impression, or suspicion, or hope that the price of the chainless might be reduced.

The suspicions, however, are routed by the announcement that the American Bicycle Co., which dominates the price of the bevel geared machine, will make absolutely no change in its lists.

As heretofore, their chainlesses will list at \$75 and \$60 and their chain geared bicycles at \$50, \$40, \$35 and \$25 respectively.

These figures will apply on all their catalogued bicycles. The Crawford has been withdrawn from the category, and under its own name will be sold as a no-price or jobbing wheel.

The chainless motor bicycle which is being experimented with at the Hartford factory will not be ready for the 1902 trade. It is not impossible, however, that a belt driven machine will be made to fill the breach if occasion requires.

Takes the Indian Abroad.

With a considerable output of Indian motor bicycles now assured, the Hendee Mfg. Co. is permitting no grass to sprout under its shoes. The fame of the bicycle having reached across the sea and several particularly tempting offers having resulted, George W. Sherman, representing the company, sailed yesterday for London on the Oceanic. It is quite likely that the Indian will make its appearance at the Stanley Show, but whether or not it is reasonably certain that before Sherman returns he will have effected arrangement that will insure no small export of Indians during the approaching year.

Discontinues London Depot.

The American Bicycle Co. has ordered its London depot discontinued. Its branches in Paris and in Hamburg will, however, be maintained.

WHY HE STILL RIDES

The Old-timer Delivers Himself on the Subject—Popularity and Changes.

"Why don't I give up riding like so many other people?" repeated the veteran. "What in thunder do you mean?"

The *Bicycling World* man explained that he was endeavoring to learn why pleasure riding had undergone such a slump; and as everything was fish that came into his net, he thought it was equally to the point to know why some riders had not quit.

"Oh, that's it, is it? Well, I'm not a Yankee, but I'll answer that question by asking you one: Why should I quit riding?"

"Shall I do so because every Tom, Dick and Harry that used to swarm over the roads and disgust people with the pastime no longer lives on a bicycle?" he went on without waiting for a reply. "Is that any reason why I should give up something that has given me more enjoyment than I could tell you about if I took a dozen years?"

"Why, it's a positive pleasure to me to be able to enjoy my cycle without constantly coming in contact with the riffraff that came in half a dozen years ago.

"What did they know about the charm of bicycle riding? Not as much as the fireman who stokes an ugly, puffing monster of a locomotive that hauls long rows of freight cars from one railroad junction to another! He didn't get half or quarter the good out of the machine that there was in it. Mileage was his god, and the benefit he received was due to no effort or desire of his.

"As for me, I love my cycle and all that it brings me. Years ago, when I was a gay young spark, I liked to scorch with the best of them, and did it, too. Even to-day there is nothing that does me more good than to let off some surplus energy by a good, fast spin over a fine road stretching away before me for mile after mile. It warms my blood and leaves me in a tingle that sends me to business the next day better prepared to do good, hard work than I would have been under any other circumstances.

"But I like to take it easy, too. To get away from the noise of the city, mounted on a machine that runs easy and is comfortable; to go in any one of a score of directions, as it suits my fancy, riding as far as I like, returning when it pleases me, stopping by the wayside if the fancy takes me—this is something that will tempt any man, and it is possible only on a bicycle.

"Don't I ever get tired of it? Oh, sometimes I wish for something novel, a new sensation, and occasionally I try something else for a change. But I never neglect cycling for any length of time. The winter season breaks it up, and I am always anxious to get back to it again when spring comes. Take it now; I am making good use of the fine weather we have been having this

fall. I know that it can't last much longer, and that it will be a long time before I can take it up again with any pleasure.

"Then, again, the changes in construction interest me and add zest to my riding. Now, don't smile. There are changes, although there have not been as many of them of late as I would like to see.

"There's the coaster-brake, for example. That alone, if properly understood, would give cycling a new lease of life among those who had begun to be lukewarm in their devotion to the pastime. Riders got tired of the high wheels years ago, but the safety held them and brought into the fold thousands and thousands of riders who would never have touched the high wheel. It was the same with the air tire. It not only arrested decay, but, with the lighter machine, brought in the much talked of boom.

"Properly handled, the coaster-brake could have been made to accomplish but little less than the air tire did. It changed, and by changed I mean improved, the bicycle almost as much as the pneumatic tire. But few people understood its importance, and to-day hundreds of thousands of riders haven't the slightest idea how much it adds to the pleasure of cycling.

"However, that is something that I am not particularly concerned about. Personally, I prefer to have fewer riders. I have more room on the roads; the people I meet—many of them, at least—are congenial, and I can get all the accommodations I want at the roadhouses and hotels.

"It does sadden me a little, however, to see how a glorious pastime has suffered in popularity. There is just as much pleasure to be had out of it to-day—more, in fact, for the machines are better—as there was when people went crazy about it.

"There are some people who realize this even now. The roads are not deserted, as one would think to hear all the talk. The comparison is made with the time of the boom, and of course there is a big difference. But if you take the trouble to observe the people out riding any fine day you will see that the bicycle as a pleasure vehicle has by no means had its day.

"Let me tell you another thing: I make the prediction that the bicycle will have its day again. It won't sweep the country, as it did once, of course; such a thing does not happen twice.

"But it will become popular again. You can't keep a good thing down, and the bicycle is distinctly a good thing, viewed as a pleasure vehicle solely. Its good qualities may be overlooked for awhile, but in the end they are bound to be recognized. And when they are the bicycle will be enjoyed in a more rational manner than formerly, and its popularity will be more lasting.

"However, as I have said, I don't care whether it becomes popular again or not. There are certain penalties to be paid for popularity, and the pastime is a much more enjoyable one when it hasn't so many devotees."

FEATURES OF THE INDIAN

Some of the Originalities Contained in Hendee's Motor Bicycle.

Having perfected arrangements with the Aurora Automatic Machine Company that insures high class production of its motors, the Hendee Manufacturing Company, Springfield, Mass., are now aggressively talking business, and early in January expect to have their Indian motor bicycles coming through in quantities sufficient to meet all reasonable demands. The bicycle is already widely known, and is certain to become even better known before the season of 1902 is far advanced; its trial performances, its appearance and its many good features all make for that end.

These features are not to be gainsaid, and are of the sort calculated to give the Indian an immediate following, now that it is formally on the market. They are best stated in the language of the Hendee people, as follows:

Single lever control: The speed lever starts the machine, increases the speed and stops the machine. It also lifts the exhaust valve so that the machine can be handled with compression in the cylinder. This enables one to start without compression and without touching any relief lever or petcock. To start, pedal, throw speed lever over a quarter of an inch and engine starts. The further the lever is thrown over the faster the speed. The time of the spark is governed by this lever throwing the contact breaker forward. This lever will give all possible speed required for road work, and will take the machine up 10 to 12 per cent grades. When heavier grades are met the gas lever is used. This simply gives a heavier charge to the engine, thus increasing the power. The flow of gasoline, the known quantity, is fixed and does not require regulating. The air, the unknown and variable quantity, is regulated and adjusted by the air regulator.

The narrow thread, $5\frac{1}{4}$ inches, is obtained by inclosing all the mechanism inside the base of the motor.

The muffler is on new and clean lines and does its work well, there being little or no noise. The carburetter or vaporizer is also new, and gives a steady flow of gasoline under all conditions. When riding over the roughest of roads the engine is fed with the same flow of gasoline as when travelling over the smoothest surface. Another feature is the absence of wires. Those used are all short and perfectly protected, both as to breakage and wet. The oiling device is original. The oil is carried in the small tank in front of rear stays, and the oil is fed into the glass oil measure. This measure holds just enough oil to thoroughly lubricate the motor for thirty or forty miles. When a continuous run is desired the feed can be regulated to give a regular flow of oil to engine,

but best results are obtained by using the measure at stated intervals. By having the measure of glass there can be no question as to the oil reaching the motor, as a glance will tell whether it is being fed or not.

The entire drive is by chain. The starting or pedal drive is on the right side of machine in the usual manner, and connects to a special coaster brake in rear hub. The motor drive is by chain from motor shaft to a countershaft at crank hanger, at which point the first reduction is made, and from the countershaft back to the rear wheel, where the second reduction is made. In this construction is obtained a steady positive drive without any slip whatever, allowing entire power developed by motor to be transferred to rear wheel. With this construction all chance of chain breakage is done away with. In the hanger is an eccentric for adjusting chains, and the regular chain adjusters are used at rear wheel if occasion requires them.

The entire machine was designed by Oscar Hedstrom, whose pacing tandems are widely known. His two and a half years' experience with the ins and out of pacing machines under all conditions, coupled with mechanical ability, produced this machine. Its simplicity of construction and the easy matter of getting at all points where trouble may develop, is admired by all. No special tools are needed. A wrench or screw driver reaches all parts. The motor itself is held to hanger by two bolts, which are easily removed. The top connection is a regular union coupling. To take motor from frame simply disconnect wires and exhaust pipe, oil and gasoline feeds, take out two bolts at base, disconnect union coupling at top, and the motor is free to be removed.

There is no oil dripping from machine at any point, nor is there any being thrown on the clothing of the rider. A pair of trouser guards give perfect protection on this machine, as on a regular cycle. The motor can be run for any distance without a particle of overheating. A motor bicycle to be perfect must climb hills without assistance from the pedals. This machine has repeatedly climbed Cross-st. hill, in Springfield, a 19 per cent grade, with loose surface, at speed varying from six to eighteen miles an hour. To illustrate the power of the motor, the hill can be taken at ten miles an hour until half of the ascent has been made, when more power is turned on and in the middle of the hill the speed will increase to fifteen miles an hour or more. The construction is of the best. It is folly to try cheapness when motors are in question. The material has been selected without regard to cost and the workmanship is as fine as brains and money can produce.

The motor is of special design, built and adapted for use on a motor bicycle, where great power is required, but where the motor and accessories must not be cumbersome. In construction all previous standards have been laid aside, and the result is a most satisfactory engine for its purpose. On measurements, according to the French standard, the motor is $1\frac{1}{4}$ h. p., but it develops more than that.

SUMI REACHES NEW YORK

Japan's Biggest Importer Here to Make Purchases—Reports big Year Ahead.

Rikichi Sumi, of R. Sumi & Co., Osaka, Japan, who is probably the most extensive importer of bicycles in the empire, reached New-York last week. He is making his headquarters at No. 11 Broadway.

Mr. Sumi is here to make purchases, and is, of course, much sought after. Last year he sold some two thousand bicycles, to say nothing of large quantities of tires and sundries. Owing to financial troubles which disturbed the country the business done was not as great as would otherwise have been the case. These clouds have been pretty well dissipated, however, and Mr. Sumi anticipates that the year 1902 will be a big year. To use his own words, the bicycle in



角自轉車商會主
角利吉

Japan is "young," and the business is but little more than developing. The interest is spreading rapidly, and something of a boom is in prospect.

Sumi & Co. are well prepared to meet it when it arrives. They have four branch stores in Osaka, which is the second city in Japan, having a population of about one million, and another in Tokio, the chief city and capital of the Empire. They also have agencies in all of the leading towns. The Sumi catalogue and the signs on their stores are printed in both English and Japanese, and photographs attest that they include many American ideas.

Mr. Sumi states that while coaster brakes are quite popular the chainless bicycle is absolutely unknown in Japan, and that no demand for it exists; the same is true of single tube tires, the demand being for double tubes, the Morgan & Wright tire in particular.

Mr. Sumi will be here for about two weeks.

Hill Makes a Flying Visit.

Among the unexpected visitors in New-York on Saturday last was Alec S. Hill, who the veterans of the trade will recall was for some years the agent for the Coventry Machinists' Co. in this country, and

later manager of the Fenton Metallic Manufacturing Co., at Jamestown, N. Y.

Mr. Hill's visit to this country was a brief one, his stay being limited to one week, but while here he placed a number of orders for new machinery to be sent to England at once. Mr. Hill is the proprietor of the Coventry Chain Co., of Coventry, who are at the present time employing one hundred and fifty hands. Mr. Hill states that the trade in England is in better shape than at any time during the last three years, the better known manufacturers and those having desirable connections all doing a very profitable business, the depression which existed, and which now exists in this country, having almost wholly disappeared.

Mr. Hill returned to England on the Umbria last Saturday afternoon.

The Millers and Thornburgh Join Forces.

One outcome of the removal of the Shelby Steel Tube Co.'s headquarters to Pittsburg developed this week in the incorporation of the Miller-Thornburgh Co., of this city, with a capital of \$50,000. The officers are: W. E. Miller, president; L. B. Thornburgh, vice-president and general manager; E. A. Miller, secretary, and A. A. Kaiser, treasurer, nearly all of whom will be recognized as having been identified with the Shelby Co., W. E. Miller having once been its president and Mr. Thornburgh its office manager and sales agent. The new concern has established offices at 135 Broadway, and will deal in iron and steel, tubing, of course, being included in the category. They are already making an active bid for bicycle trade, and not unsuccessfully.

Some Complaints From Holland.

"It is not always as easy as it seems to get the right goods at the right prices," wrote Klaas Baving, Zwolle, Holland, the largest cycle importer in that kingdom.

"There are too many manufacturers who do not, or will not, understand what is wanted. For instance, it is not easy to obtain proper mudguards or the right sort of enamelling, although this last is of the greatest importance; American enamels do not stand this climate; they peel off of the frame and forks.

"In the matter of lamps there is also cause for complaint. I do not think there is a lamp in the United States fitted with the proper bracket for this market.

These Shareholders Object.

It appears that the proposed reconstruction of the Dunlop Tire Co. is not to go through without objection. A meeting of shareholders was held in Dublin recently, in which the \$7,000,000 reduction of capital was denounced in unmeasured terms. It was pointed out that the reconstruction scheme will accomplish nothing in the way of increasing the earnings, while it will saddle on the company a big bill for costs. For these and other reasons it is opposed, and notice was given that the opposition will be carried to the utmost limits.

ANOTHER CHAMPION ON A NATIONAL.

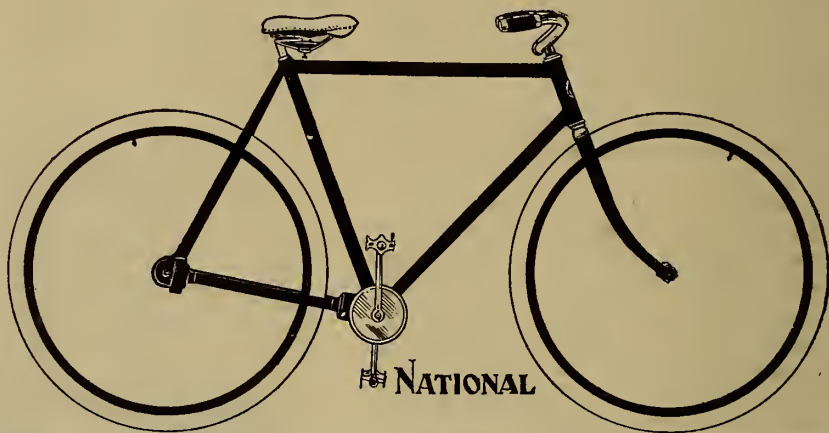
EDDIE "CANNON" BALD SAYS:

BUFFALO, N. Y., June 11th, 1901.

National Cycle Mfg. Co., Bay City, Mich.:

Gentlemen:—The Model 44 Cushion Frame Coaster Brake Chainless National Bicycle has been one of the most satisfactory mounts I have ever had. It makes an ideal wheel for business purposes, and I can recommend it to anybody desiring a complete bicycle embodying all the latest improvements.

EDDIE C. BALD.



False Economy.

It does not pay to buy or sell cheap tires—they are the dearest in the end.

If a rider wants to get the greatest comfort and satisfaction out of bicycling, he must have the best tire possible to make.

If a dealer wants to give his trade that which it ought to have instead of that which he makes the most money out of, he will sell

Fisk Tires.

In quality of rubber, fabric and workmanship—all that a tire can be.

BRANCHES:

SPRINGFIELD; NEW YORK, 99 Chambers St.; SYRACUSE; BUFFALO
DETROIT; CHICAGO, 54 State St.; SAN FRANCISCO, The Phil B. Bekeart
Co., 114 Second St.

REPAIR DEPOTS:

105 Reade St., NEW YORK, N. Y.; 604 Atlantic Ave., BOSTON, MASS.;
916 Arch St., PHILADELPHIA, PA.

FISK RUBBER COMPANY

CHICOPEE FALLS, MASS.

THE BICYCLING WORLD

FOUNDED 1877
and MOTORCYCLE REVIEW

In which is Incorporated
the "The Wheel" and the "American Cyclist."

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Members of the trade are invited and are at all times welcome to make our office their headquarters while in New York; our facilities and information will be at their command.

To Facilitate Matters Our Patrons Should

Address us at P. O. Box 649.

NEW YORK, NOVEMBER 14, 1901.

Beware of the Stampeders!

The ex-cycling publications that, having themselves stampeded, are trying to stampede the cycle trade to automobiles, are working untold injury to nearly all but themselves. If there is "no money in bicycles," as they assert, we are in position to say that there is even less in automobiles. It is the exception and not the rule when this is not the case. There may, and probably will, be money in the big vehicles at some time or other; but the day is not yet, and, if ever, it will be many years before the average bicycle agent in the smaller towns and communities, even if financially equipped, will find the sale of automobiles sufficient to justify the outlay and return him a livelihood. It is these agents that are now the health and strength of the cycle trade, and to urge them on to motor vehicles is to urge them to take a ten to one chance of losing all they have made in the bicycle business, and carries with it a weakening of the spirit and structure of the cycle trade.

Unless he is located in a populous commu-

nity or has ample capital and can afford to await an indefinite period for returns on his investment, let no cycle agent permit himself to be beguiled into the handling of automobiles, else he regret it. If he needs side lines he had best look at those wares that are demanded by and within reach of the masses.

With the motor bicycle in plain sight, he should not be swerved from the cycle trade. It has been worth his while in the past; it will be worth it in the future. Let him beware of the preachings of the demagogue and pin his faith to those who are true to him. If half the energy and enthusiasm being causelessly diverted to automobile channels was concentrated on and devoted to the bicycle, the good old trade would quickly uprear itself and again be hearty.

Getting out of the Rut.

It was a wise man who said that when everybody was rushing into a business he deemed it prudent to keep out. It was only when the movement was the other way that the matter possessed any interest for him.

There is even more in this observation than appears on the surface.

No one makes a success of anything by doing exactly the same thing that everybody else does.

He has got to strike out on new lines to get out of the rut; to attract attention by his originality if he wants to woo the fickle goddess.

The world accepts a man or a trade at his or its own valuation. If the confession is made that everything is going to the demnition bow-wows, that nobody buys certain goods, that the future looks blacker than even the present, it is a moral certainty that the gloomy picture will be accepted at its face value.

That portion of the cycle trade—and it is a very large proportion—which sings this song is not going to reap any benefit from the singing.

It is not going to better matters by simply sitting still and waiting for something to turn up.

It was aggressive tactics that won in the past, and success, even if of a modified kind, will crown them if pursued in the future.

The maker who sends out his travellers with the new season's patterns, having previously infused into them a portion of his own energy and confidence in the goods to be sold, has already scored first blood.

If he follows up this success by convincing the retail dealer that he has something

different to offer, something new or better or more attractive than his competitors, something that the dealer will be able to find ready purchasers for, he has the victory won.

But he must have the goods and the confidence in them or he can do nothing.

He must be able to show that his proposition is different, that it is a winning one, or he will find himself on a plane with all the other makers.

There are still bicycles to be sold, still ways of diverting extra business into the desired channels.

But it is not to be obtained in the time-honored way.

There must be something out of the ordinary to tempt buyers. What this something shall be is a matter for the seller to decide.

Status of Motor Bicycles.

One of the automobile publications regrets and cannot understand why so few motor bicycles were in evidence at the Automobile Show in Madison Square Garden last week.

In due course it will probably occur to all classes of men that a change in motive power does not change the nature of a bicycle; it remains just as much of a bicycle as it ever was; there was no such silly prattle to the contrary when the pneumatic tire superseded the solid. It is time it ceased.

It does no harm to exhibit motor bicycles, or any other sort of bicycles, at automobile shows or at shows of any other kind, but they are of and for the bicycle trade.

Until the Bicycling World blocked the game, there were a number of people, actuated by self-interest, who sought to swing the motor bicycle to the automobile trade, and the "regrets" referred to is probably one of the final kicks in that direction.

Not Guilty in This Case.

In its day the bicycle trade has been accused of following fads on the slightest—or even on no—provocation.

Of late years it is asserted that it has gone to just the opposite extreme, and now sets its face just as sternly against change as it formerly "plumped" for it.

There is considerable truth in these assertions. But there is also much to be said on the other side. The trade has remained steadfast in its adhesion to certain ideas, certain features that it was convinced were good. There has been no running after false gods in such cases, but, on the contrary, a holding fast to what was known to be all

right in spite of all allurements to wander into strange fields.

Slight changes may be made solely because they are changes—that is, because fashion's dictates must receive some consideration. But with the fundamentals there have been few attempts to "monkey."

A good example of this steadfastness is found in the diamond frame. For almost a decade it has resisted all efforts to displace it, even to change it materially. The trade and public found it good, and has stuck to it with a firmness worthy of such a good cause. Indeed, so well has this been understood that in all that time no very serious efforts have been made to displace it.

There are other examples that could be cited, some of them almost as much to the point as the one referred to.

Damned by its own Proof.

Some of those cycling journals that lost love for the bicycle when the bicycle boom petered out, and that stampeded to the automobile trade, are having a hard time of it trying to ride two horses and serve two masters. While urging on every one to the other industry, they are still anxious to obtain as many of the cycle trade's dollars as possible, and the hypocrisy they practise in the effort to obtain them is as amusing as it is contemptible.

One of these monthly papers, in its great greed, circulated not a few letters blackguarding the *Bicycling World*. Without mentioning its name the *Bicycling World* referred to the matter, and the blackguard promptly recognized itself. Its last issue hurls more mud in the desperate effort to "make out a case" for itself and prove itself deserving of the cycle trade's money.

It says, in substance, that there is "no money in bicycles," and that the cycle dealer who does not sell automobiles is a "back number." It then asserts that it is "now more than ever the paper for cycle and cycle parts manufacturers." The reflection on its past need not enter into the case, but the very issue in which these statements are made is the strongest possible indictment of the protesting culprit. Of seventy-three pages of reading matter—and small pages at that—less than five are devoted to cycling subjects. If this is not sufficient to show the particular publication's "deep and abiding affection" and service for the cycle trade the fact that it considers the Pan-American awards to automobiles worthy of notice and the cycling awards unworthy of mention is enough to complete its self-damnation.

We do not purpose engaging in a "newspaper fight." Those engaged in the cycle trade are not blind. They can see for themselves. They can tell the false from the true. But we do and will protest against more or less guarded implications and statements of journalistic demagogues that the bicycle business has "gone to the dogs," that "there is no more money in it," that it is not worth while trying to make it pay, etc., etc., ad nas. It is this doctrine that has undermined the trade and prevented its recovery. It is the doctrine of the faint-hearted and the demagogue. It is a doctrine that will sap the vitality and spirit of any industry, and whether their actions belie their words, as in the case of the "straddling" journal that devotes five pages to the bicycle and sixty-eight to the automobile, we do not mean that it shall suffer to pass without protest in the cycle trade.

For the Winter Season.

There is undoubtedly a demand for non-slipping tires, although it is far from being a large one. The riders who continue to use their wheels throughout the greater part of the winter need something that will give greater stability than is afforded by the regulation smooth tread tire, and some of them at least are willing to pay for a superior article.

Many non-slippers have been brought out, but almost without exception they have gone the way of the majority and left slight impress on the trade.

At the present time one or two tires of this character are sold in a desultory sort of way, but they make no progress to speak of. Nevertheless, the belief that something of the kind will some day make its appearance and score a big success is held by not a few observers, who understand what a demand there would be for such an article. The closer it resembles the regulation tire the better it will be, of course, and the greater its chance of scoring a success.

With all the desire in the world to like Americans, I find it practically impossible to do so. Their brag, bluff and kunkum are simply sickening. . . . The average American woman tourist seems to me to be the most ill mannered and ill dressed creature I ever came across.—"The Scorchers," in the *Irish Cyclist*.

It is sometimes advisable to consider not only sources but infirmities. This attache

who is permitted to soil the pages of an otherwise decent publication is himself as fine a type of "British gentleman" as his language makes plain. We have a distinct remembrance of his polite and cordial manners. He welcomed his visitor from America without rising from his chair, and made it pleasant by sucking a pipe and looking over papers while the visit lasted. "The Scorchers'" name, O'Reilly, is the only thing characteristically Irish about him. He does not like American men, and goes out of his way to insult American women, but how he does love American money! He is even now anxious to exchange his writings for the lucre of the "sickening race."

The reciprocity convention called by the National Association of Manufacturers occurs next week. As it is open only to commercial organizations, the cycle trade cannot be represented, even if it would. But if the convention desires a striking example of how a jug handled and unnecessary tariff affects an industry they have but to call up the fall of the American bicycle in Germany and other parts of the world, and the steady advance of the German article. Clever merchants that they are, the Germans have used our nonsensical tariff to set not only the German nation, but other nations against us.

The almost total absence of "price talk"—of anxiety or interest in the "other fellow's" figures—that has characterized the preparations for next year shows how great is the change that has come over the spirit of the trade. No one seems to care very much what his rivals are doing or may do. If it does not result in some one's being caught napping it will be passing strange. Certainly conditions were never so favorable for a display of slam-bang aggressiveness—for some one to "jump the bunch," in the language of the track, and steal a commanding lead.

As a beautiful day dream of the commerce of the future and of the "surpassing independence" of the United States, the article from the *Saturday Evening Post*, which we republish in another column, is interesting. But such false dogmas are unworthy of the paper in which they appeared. The crooning of such lullabys serve merely to lull people into the trance of fancied security into which too many Americans have already fallen. There will some day come a nightmarish awakening.

FOOLING WITH PRICES

Foreign Trade Taking Risks in Forcing Reductions—Other Matters of Interest.

London, Oct. 30.—There has been a further fall in the price of engines suitable for use upon motor bicycles, and according to a recent quotation \$80 will buy a motor and all accessory parts, so that only the actual bicycle and the tires need be purchased. As with stouter tubing and double front forks the bicycle can be had for slightly over the stock article, it is evident that motor bicycles at lower prices are in sight, and will be offered for sale by the smaller people in the trade, if not by the larger ones.

It strikes me that the motorcycle trade is about to be very considerably cut up, and the remedy is not easy to find. In the case of the pedal propelled bicycle the evil in time partially righted itself owing to the fact that riders found that the very cheap machines required more power to drive; hence the return to really first grade bicycles. But with the motor bicycle the matter is different, for the engine has to do the work, and so long as the machine hangs together and runs fairly well the purchaser is content. Therefore this price cutting may be serious, because it is easy to get down to a point where a slight profit is converted into a big loss, and it must always be remembered that it is always very hard to put prices up without materially reducing the volume of trade, unless there be some reason which buyers can understand. On this account I am sorry to observe this tendency to bring the selling figure of motorcycles too low. With cars it is a different matter, and prices might well fall without injuring the trade; in fact, such fall would undoubtedly place the motor industry on a much better footing.

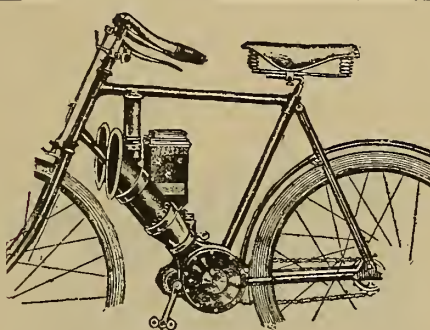
Opinions as to the cause of sideslip vary more and more, but it is rather interesting to note that G. D. Leechman has come to the same conclusion as myself, namely, that placing the motor low down does not prevent sideslipping, but, if anything, increases the risk of a fall from this cause. I have found that a machine with the engine placed high and driving the back wheel is much more reliable when passing over greasy roads.

The United Motor Industries, Ltd., are making a bold bid for a big trade in motorcycles next year, and have secured a large supply of Werners, which they are offering to the public for \$60 down and twelve monthly payments of \$15. This will probably fetch the public, although it must be remembered that the total works out at \$240, which is a fairly high price. But for the present it is quite possible to do a direct trade at high rates, and there is, so far, little attempt at underselling the bona fide agent, and so robbing him of his fair trade, as was at one time much too prevalent a method with many cycle manufacturers.

There will, I am told, be one or two

samples of roadster motor tandems on view at the forthcoming shows, and if this be the case I hope that the engines will be better placed than has hitherto been the case where machines of this class have been designed purely for road work, and for the use of a lady and gentleman. As a rule it has been quite impossible for a lady to ride one of these machines when wearing a skirt, as the latter would be certain to come in contact with the motor, with disastrous consequences. Providing that this difficulty can be overcome, the motor bicycle in a tandem form may soon become popular. At the present time many people who like the idea of tandem riding find the work too hard, but this objection would not apply in the case of a motor.

I feel that my notes would be incomplete without reference to the great loss which the English cycle trade has sustained in the early death of Mr. J. K. Starley, which sad event occurred at Coventry last Tuesday.



TWO CYLINDER MOTOR BICYCLE FROM FRANCE.

Mr. Starley was only forty-six—he was born December 24, 1854—and it was mainly due to him that the present type of bicycle was introduced.

Mr. Starley was universally respected, and his gentle manner and calm reason were always appreciated. It was mainly due to him that the recent meeting between the cycle and motor trades passed off without a more or less serious disturbance. The cycle trade has lost a man whom it can ill spare; a kindly and honorable spirit has gone from us, and the loss is widely felt.

Why Persons is Pleased.

Of the men in the trade whose cycling spirit has not been shaken is Charles A. Persons, the head of the Persons Mfg. Co., Worcester, Mass.

Late last week he returned from a swing around the trade circle, and confirms what the *Bicycling World* recently stated—that the 1902 demand is unmistakably for the hammock type of saddle. He not only effected connections with a number of new (to him) jobbers, but in every instance the orders of his old patrons are substantially increases over those of previous years. The bicycle manufacturers also have read the signs, and, Mr. Persons says, there is none who is making high grade bicycles who will not use hammock saddles next season.

As the high priest of the particular type and as the man who "kept everlastingly at it," Persons is naturally jubilant because of the turn of the trade tide.

BRITISH CONSUL'S TRIBUTE

Coming From Americans his Assertions Would be Termed "Yankee Bounce."

There is nothing like taking a leaf out of your opponent's book if you want to keep pace with him. It is only a little while since it was said, in reply to the suggestion that British consuls should follow the example set by their American fellows in posting themselves on trade conditions, that the former were not the sort of men to do work of this character. Business was the last thing that could be expected to enter their heads, and if work of this kind must be done it would be well to appoint assistants to the consuls for that purpose.

Nevertheless, the British consul is waking up, and within the last few months there have appeared a number of more or less valuable reports relating to the cycle and other industries in the United States.

One of the latest of these reports to make its appearance is from the pen of the British consul at Philadelphia. Writing from that city, he is quoted as saying that not only in bicycles, but in the manufacture of all articles where specialized work is demanded, British makers might follow the example of their American rivals.

In the first place, he points out that all over America capital is the master of labor, but at the same time the workman is encouraged to excel.

Specialization is supreme. A man is taken on and placed as an assistant at one special piece of machinery or skilled labor, and that work is seldom changed; while he may rise to the full management of that machine or several machines, or rise to be foreman (or even higher) of the skilled labor, he will in almost all instances remain at the same branch as that at which he first enters. Men receive promotion by their intelligence and usefulness; they are encouraged to improve their machines and to suggest new methods in their skilled labor for which the employer pays them, or takes out patents for them at share profits.

What superiority has been gained in any direction by America is, in the opinion of the consul, largely due to those methods of encouraging the workmen to put forth their best efforts in the work with which they are specially acquainted, and many will agree with his conclusion that at least the British manufacturer should study these methods and see whether they cannot be applied to his own instance—that is, speaking of the British manufacturer in general.

Last Time for two Shows.

The two English shows will open their doors on Friday of next week, the National at the Crystal Palace and the Stanley at the Agricultural Hall. As usual, it is asserted that the present will be the last year that two shows will be held.

THE BICYCLE FITTINGS

MADE BY

THE H. A. MATTHEWS MFG. CO., SEYMOUR, CONN., U. S. A.,

are pronounced by all who have used them to be the most accurate ever manufactured.

OUR CUPS

are hardened by a special process, and the hardening is perfect.

We make

STAMPED CONES

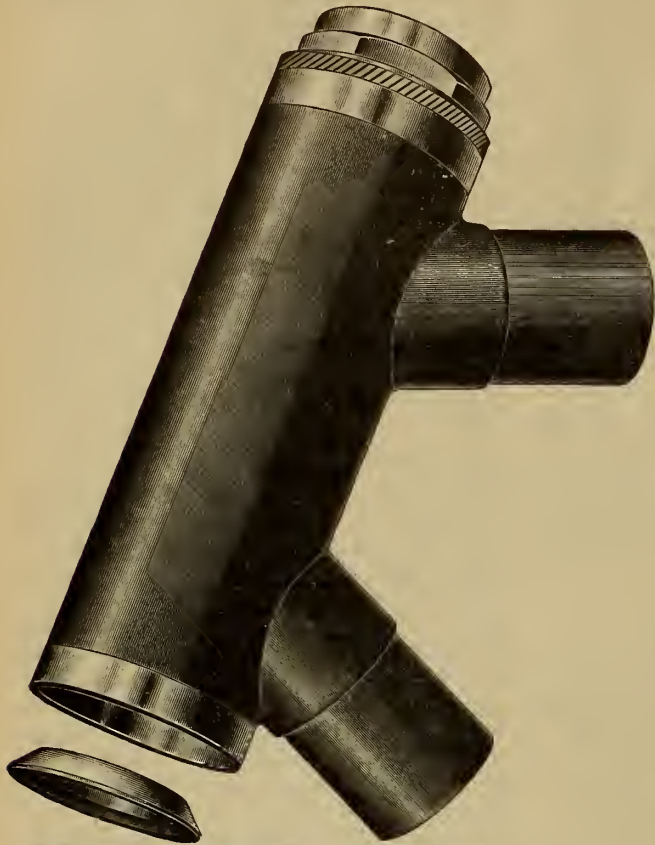
(patented) the best in the world.

Estimates from Drawings or Blue Prints furnished.

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SHEET STEEL STAMPINGS.

Send for Catalog and Price Lists.



FLUSH HEAD SET AND HEAD, 1 1-8 BRANCHES.

'Twill be no Winter of Discontent

for the Royal agent. He will have a bicycle that is worth showing, and one that will not only interest but educate and enthuse his fellow-townsmen in a manner that will bring orders very, very early in the Springtime. Apply for the agency now, that you may

Make hay while the snow falls.



ROYAL MOTOR BICYCLE.

ROYAL MOTOR WORKS,

-

CHICOPEE FALLS, MASS.

NEW FRAME NEEDED

Strahan Says Diamond Unsuitable for Motor Bicycles—Vaguely Outlines a Change.

This is perhaps a critical time in the history of the motor bicycle, such as was passed in the history of the bicycle on the advent of the safety bicycle and the pneumatic tire, observes J. Lewis Strahan in the *Horseless Age*. The makers and users of the old ordinary were loud in their praises of that type of bicycle. It was considered mechanically perfect. It was thought that no other form of mechanical device could excel that perfect wheel. After scoffing for a time at the low safety form of wheel the riders of the ordinary changed their attitude and became sponsors for the diamond frame, and now we may look back at a great transformation. Millions of individuals, in a comparatively short space of time, became enthusiastic bicyclists where only thousands had indulged in the sport on the ordinary. Undoubtedly the items of greater safety and comfort were accountable for this extraordinary increase in the riding public. Immunity from accident or greatly lessened danger was the principal or controlling influence, and the greater comfort of the pneumatic tire was next in importance.

The public display a keen interest in the motor bicycle whenever one makes its appearance on the street or at the shows, but there seems to be a holding off from indulgence in the sport, arising no doubt partly because of a lack of a practical knowledge of the gasoline motor and partly because of certain disadvantages inherent in the use of the diamond frame, which all manufacturers have adopted for the purpose.

Whether the makers are justified in using the diamond frame for the motor bicycle remains to be seen. To be sure, it is simple and inexpensive, but that is no reason why it should be used if it does not meet the demands of the public. There are certain features of the diamond frame type of motor bicycle that render the selection of that type of frame for such a purpose open to substantially the same criticism of shortcomings as were demonstrated to be inherent in the old ordinary type of bicycle. Pedaling the diamond frame type of bicycle, being the purpose for which it was so well designed, is one thing, but riding up in the air, necessarily out of reach of the ground, with a $1\frac{1}{2}$ horse power motor to attend to driving the rider along at a lively pace, is quite another.

It would seem that manufacturers erroneously assumed that the diamond frame, being simple and cheap of construction, was the perfect and only frame, and, hastening to reach what was expected to be a ready market, adapted the motor to the diamond frame, instead of adapting the frame to the radically different use to which the wheel was to be put. The extreme popularity of the bicycle came when the old ordinary suc-

cumbed to the greater safety of the low or diamond frame and the comfort of the pneumatic tire; yet there are numberless individuals who, notwithstanding the lessened danger, utterly fail after repeated trials to master the diamond frame bicycle, because they are beyond reach of the ground, and the tendency to topple over is too much for them.

Very much has been said which is true of the simplicity, power and speed of the prevailing diamond frame motor bicycle, and as a pioneer in the art no one has a criticism to make; but to view the present diamond frame type as the perfect type is as surely a fallacy as to maintain that the old ordinary was the perfection of bicycle design and construction, which was the prevailing belief at the time.

At the present time the most popular and the prevailing form of motor bicycle carries its weight not only of motor and its ap-



NEW YORK BRANCH: 214-216 WEST 47TH STREET.

purtenances, but of the rider as well, high above the wheel centres, excepting that class of motor bicycles whose motors are placed at the crank hanger, which in other respects are quite similar, however. Owing to the method of starting the motor a saddle must be used, and here much might be said of the discomfort of the saddle when little, if any, pedaling is done. The rider is beyond reach of the ground. He must mount by the step at the rear axle or by pedal. In case of the front fork breaking there is nothing to save the rider from an ugly fall. The drive belt running over the large pulley on rear or front wheel is close to the ground at one point and is thus constantly exposed to the wet and dirt of the road.

That the belt is far superior to the sprocket and chain for the transmission of power in these small vehicles because of its flexibility is fully demonstrated after many and exhaustive experiments, but its great length renders frequent adjustments necessary. The feet must always be at opposite points in the circle of the pedals. The rider must jump off when the wheel comes to a stop,

which little exercise is dignified by the term "dismounting."

There is no speed change gear device, so that the full power of the motor cannot be used to advantage in hill climbing. A hill, if at all surmountable by motor power alone, must be taken at the full speed of the motor and vehicle, otherwise at a great sacrifice of power.

The diamond frame motor bicycle is not designed for the comfort and safety of the female rider, and it is not a dignified and inviting method of travel for her, to say the least. Lastly, the rider must be a bicyclist of experience before he can hope to manage the motor wheel.

This criticism of the use of the diamond frame for the motor bicycle is made so as to throw out in relief, as it were, the objectionable details, the points to be avoided in the design of a more ideal frame and driving mechanism. All attention and thought apparently has been directed to perfecting the motor, to the exclusion of the requirements of the general riding public.

Now that the motor may be relied upon, special attention should be directed to the frame, which should be of such design that the rider is considerably nearer the ground; he should have a comfortable seat instead of a saddle, and the greater part of the weight of the motor and its appurtenances should be below the wheel centres. Some change should be made in the pedaling mechanism which would permit the use of a seat only high enough to merely clear the rear wheel.

This suggestion means a radical change, but in the case of the motor bicycle its accomplishment is well within the possibilities. Such a design would enable the rider when coming to rest to put his feet on the ground and remain seated, as in a chair. There should be at least two speeds, so that the full power of the motor could be used on the hills at a slow speed of the vehicle. Furthermore, such a design affords an opportunity to women to equally enjoy with men the diversion and delights of the motor bicycle, which, through the use of the diamond frame, is now denied them.

Strengthening the Rear Portion.

Oddities in frame design continue to make their appearance "on the other side," notwithstanding the prevailing vogue of the diamond frame. One of the latest is a frame that has the back tubes carried from the seat post junction to the centre of the lower rear forks instead of to the rear axle, while a supplementary pair of tubes run from the rear axle to the centre of the diagonal tube. It is claimed that this gives great lateral stability, particularly at the bracket, as the unsupported length of tubing between the bracket and the back axle is only half as long as usual.

"Defects (in motorcycles) and How to Remedy Them." See "Motorcycles and How to Manage Them." \$1. The Goodman Co., Box 649, New York. ***

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ANNOUNCEMENT

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Bicycles for the season of 1902 are now ready. These well-known lines of wheels are replete with new and meritorious features.

Our salesmen are on the road showing new models and offering a proposition that is right.

It will afford us pleasure to hear from dealers who are interested.

STEARNS BICYCLE AGENCY,

General Distributors,

SYRACUSE, N. Y.

INFLUENCE OF THE IF

It Casts a Spell Over a Philadelphian who Dreams a Lovely Dream.

It is well for us to keep on conquering foreign markets and taking vigilant precautions against any interference with them, but we may have the consoling reflection that our permanent prosperity is not dependent upon the goodwill of foreign customers and not accessible to the jealous attacks of foreign governments, says a day-dreamer in the Saturday Evening Post.

Our total export trade, which seems such a tremendous thing to us and to our European rivals, amounts to only about \$20 for each one of our population. A very little improvement in the consuming and purchasing power of our people would reduce that trade to insignificance.

Mr. Fred A. McKenzie, the author of "The American Invaders," invites England to shudder because we sell American typewriters to her to the amount of over \$20,000 a week. That is a trade worth having, of course, but there are people enough in New York City alone who need typewriters, and have not yet bought them, to double it.

There is nobody in the United States, outside of the list of millionaires, who would not like to have more or better clothes. If every person in the country were able to spend on an average \$10 a year more for clothes than he spends now, the volume of trade in that line would be increased by nearly \$800,000,000 annually, or more than half the amount of our combined exports of every kind.

If every American family could live in a neat, comfortable cottage of moderate cost, the lumber, iron, steel, glass, paint, plumbing and building trades would have a boom so colossal as to dwarf everything known in the field of foreign commerce. If every American family could have all the meat it wanted, three times a day, the American farmer would have no need to concern himself about the German tariff.

And so on around the whole circle of our industries. Would it not be worth while for our field marshals of business to give some attention to this curious situation? The American garment maker is trying to induce the savages of Africa and Polynesia to wear clothes which they are much more comfortable without, because if he cannot sell his goods to them his workers will not be able to buy anything to eat. The American farmer is loaded down with things to eat, and he is trying to force them upon the protesting Germans, because, if they do not take them off his hands, he will not be able to buy anything to wear. Why cannot the farmer with his ragged overalls and the garment maker with his pinched stomach make a trade? Why cannot the people who make bicycles and automobiles find buyers among the people who make hats and shoes?

The consuming power of this country is

absolutely unlimited. Nobody's wants are ever satisfied. The more one has the more he thinks he needs. The only reason why we do not all live in palaces, with mosaic floors, silken upholsteries and marble baths, and have fast horses, automobiles and yachts, is that we cannot produce enough to pay for them. Will anybody explain, then, why it is that we are always complaining of underconsumption and overproduction?

How to Test Rubber.

At its best rubber falls very far short of perfection. Its limitations are very soon reached, and the attempt to exceed them is a vain one. Consequently the knowing ones take rubber as it is, make the most of its undoubted excellencies and do not expect impossibilities.

In the manufacture of rubber tires, and especially of inner tubes, it is a lamentable fact that much poor rubber has been used. The knowledge that the very best quality is needed to give the best results has not always availed to bring about such a consummation. Tire troubles have very naturally followed the use of bad rubber, and frequently their origin has been lost sight of or assigned to other reasons.

The rubber expert can, of course, tell in an instant whether adulteration has taken place. But the ordinary rider is usually at sea in the matter, learning only by experience that while he has paid for a good tire or tube he has had a bad one passed off on him.

Pure Para rubber sheet, if stretched and examined against a light, should be slightly buff in color, but should be clean and almost transparent, whereas a composition looks dirty and uneven in texture. Pure rubber will stand a large amount of stretch, and should recover its original shape and size afterward. It shows clear, bright, almost polished, edges when torn, whereas poor rubber is dull.

Pure rubber will float in water; composition will sink, and the greater the proportion of foreign matter the quicker the sinking.

Oldest Cycle Firm to Reconstruct.

Another old-established English cycle concern is booked for a reorganization. This is the Swift Cycle Co., and it is proposed to cut the ordinary share capital from \$1,000,000 to \$200,000. Of course there is a great outcry from the ordinary shareholders, but events seem to demand a reduction of the present enormous capitalization. The Swift Co. was formerly the Coventry Machinists' Co., and is the oldest cycle firm in the world.

E. A. De Blois, representing the Veeder Mfg. Co. and the Post & Lester Co., is leaving this week for a trip to the Pacific Coast. He will, of course, visit all of the larger cities en route.

A "dessertspoonful of rouge inserted in the air tube" is recommended as an unfailing means of locating a puncture, no matter how minute. The recipe comes from abroad.

CEYLON AS A MARKET.

Magnificent Roads Make it a Paradise but the Demand is not in Keeping.

Ceylon is another of the Far Eastern countries from which a quickened demand for bicycles is overdue. From all accounts the island is almost a cyclist's paradise; in fact, that is the very description given by a visiting wheelman. He writes:

"Ceylon in the matter of roads is simply the cyclist's paradise. If you can, imagine the most perfect piece of road upon which you ever cycled, and wind a ribbon of it away into the hills until you are 150 miles inland, over 6,000 feet above the sea level, and in doing that have not ridden one grade so steep as to worry a woman, you can understand how carefully that road has been planned, how wonderfully made, and how cleverly it winds in and out among the hills.

"I saw men coming down from the hills on free wheels, and for twenty miles at a stretch they would not have to turn a pedal; yet so gradual is the fall that neither did they have to use a brake. The place is just a heaven for coaster-brakes, and it needs to be to counterbalance the climate.

"The great main thoroughfare is a military road, made as only roads can be made, where 100 coolies get the wages of one white workingman. In Colombo not many bicycles are seen, and those are mostly ridden by the Eurasian, or half-caste. But few ladies ride."

The Helpless Class.

"It is really pitiable to see how helpless some riders are," remarked the veteran. "You may put a wrench in the hands of some of them and tell them to tighten a nut, and, by jingo, they won't be able to tell which way to turn it to screw it up.

"I came across one of this class a Sunday or two ago. He was trying to pump his tire. He pumped away until he was red in the face and his arms were aching with the unwonted exertion. But as far as getting any air into the tire was concerned he might just as well have tried to blow it in with his mouth. He would pump until he was exhausted; then he would stop and rest, and then go at it again.

"I watched him for a while, undecided whether to help him out or not. He did not deserve it, but he looked so utterly discouraged that I finally went over to him and asked to look at the pump.

"It was just as I expected. It had not been used for months, and the washer was dry. I unscrewed the cap, and, flattening out the leather washer at the end of the plunger, turned the edge down and worked the plunger carefully into the pump barrel so as not to turn the washer back again, and the trick was done. The pump worked as well as it did the day it came from the factory."

"Words of Others Tell the Story."

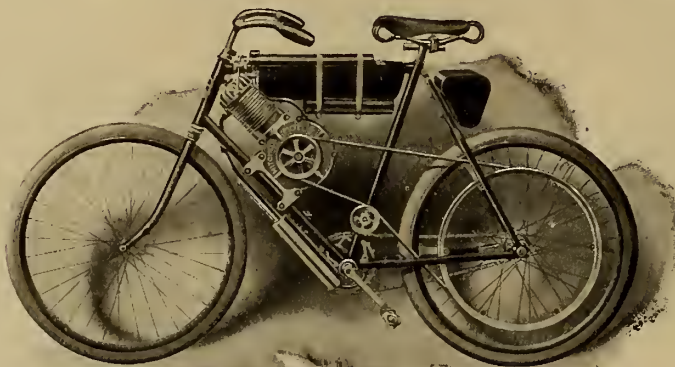
Mineola, N. Y.,

Oct. 14, 1901.

"The Mitchell Motor Bicycle arrived on Saturday and I am perfectly satisfied as to its looks and running qualities.

I have had considerable experience with other makes of motor bicycles and am satisfied that you are making the best \$200 motor bicycle in the world."

FRANK P. SEAMAN.



MITCHELL MOTOR BICYCLE.

Freeport, Ill.,

Oct. 14, 1901.

"I must say that for beauty the Mitchell Motor Bicycle is O. K., and for running mine at present is equal to any.

I have repaired and also rebuilt one pacing tandem for Messrs. Judd and Kramer, of Springfield, Ohio, and I have a — motor bicycle in the shop now for repairs, from Mason City, Iowa, and it is rather a peculiar looking affair. I wouldn't trade my Mitchell for one hundred to boot for it."

FRED JASTRAM.

WE MAKE A FULL-LINE OF PEDAL-PROPELLED MITCHELLS, TOO.

WISCONSIN WHEEL WORKS, BOX W, RACINE JUNCTION, WISCONSIN.

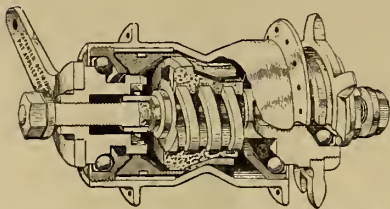
YOU CANNOT AFFORD TO TIE YOUR HANDS.

THE CINCH COASTER BRAKE

IS SUPERIOR TO ANY OTHER IN

.. OPERATION ..

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THE ONE THAT COASTS.

Actual Trial Will Surprise You. Send for Sample.

We do not fear competition, and only ask *comparison* of the Cinch with others. You may catalogue the Cinch with any other and get our lowest price. Don't close until you have it.

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Exclusive Selling Agents for United States and Canada,
ROCHESTER, N. Y.

BRAZING "VICIOUS"

So says a man who Favors Mechanical Joints—The Holes in his Argument.

Years ago, when the novelty of aluminum caused it to be accorded a great deal of attention, it was looked upon as destined to play a large part in cycle construction.

Mud and chain guards, rims and many small parts were made of it, and it was prophesied that it would come into much more extended use. Frames were also manufactured from it, one concern devoting its entire attention to an aluminum bicycle, while others were not far behind. There was a craze for lightness, and in the popular imagination aluminum just filled the bill.

But the movement never came to anything. It never "caught on" to any extent with the public, and as a rival of steel aluminum proved to be a failure. Weight for weight, it was inferior in strength; consequently there was no saving in this respect and no advantage to be gained by its use.

This ancient history is brought to mind by the expressed belief of a transatlantic contemporary that the mechanical joint may displace the brazed one. It even asks if brazing is doomed, its putative successor being, of course, the aforesaid mechanical joint.

It goes on to contend that the latter is a success; that it has been in use for years by at least one prominent firm, and that others of lesser note have obtained satisfactory results from it. At the same time, it points out that the brazing process is a vicious one and should be done away with.

As is well known, it asserts, brazing reduces the tensile strength of steel nearly 25 per cent, and in cycle construction this reduction of strength takes place at points where it is most important that the full strength of the material should be maintained.

Without asserting that the brazing process is perfect, it may at least be said that it has withstood such assaults as this before; and if they do not make any greater impression than former ones there is not much reason to fear them.

No one doubts that mechanical joints are feasible. But there is a very grave doubt whether there is anything to be gained by using them. Brazing may weaken the ends of the tubes, but makers long ago learned to put sufficient strength in their tubes to compensate for this. The best proof of this is found in the fact that frame breakages due to burnt tubing are so rare as to be an almost negligible quantity.

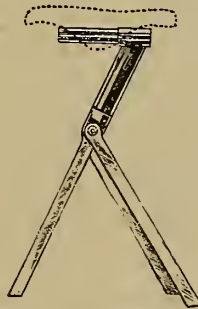
If mechanical joints are so much stronger than brazed ones, why does this not permit a net reduction in weight? No one will contend that it does; on the contrary, there is usually an increase; and an increase is one of the last things the public will stand at this late day,

Motor Bicycles vs Automobiles.

The comparative advantages of the motor bicycle and the automobile are thus summarized by a physician who has used both forms of vehicle:

AUTOMOBILE.	MOTOR BICYCLE.
First cost high.	First cost low.
Running expenses high.	Running expenses low.
Repairs high, sometimes enormous.	Repairing practically nil.
Four tires, subject to puncture.	Two tires, subject to puncture.
Differential and steering gears.	No differential or complicated steering
Must have at least decent road for comparative comfort.	Can travel almost any road or cowpath.
Can seat two or more.	Can seat only one.
None or little soil, ing and dust.	Clothes must necessarily become soiled, and dusty.
Can be used, rain or shine, sloppy, mud or not.	Cannot be used in rainy weather or on sloppy roads.
Needs place for storage.	Needs no barn or shed for storage.

An Idea From Abroad.



COMBINED SADDLE AND CAMP STOOL.

When the War ends.

Although it has been more than a year since the boom in the cycle trade that was to follow the end of the war in South Africa has been talked about in the English papers, they have not ceased to harp on it. Manufacturers are admonished to be ready to make a descent on the country the instant the proper time comes; and even the lack of success in bringing the long drawn out war to a conclusion does not prevent their touching on the matter at intervals.

Cheapness vs. Quality.

The bicycle that fails under the rider is like the bridge that drops under the train, but in one case, sagely remarks the Cyclist, only one neck is jeopardized instead of perhaps hundreds, and the additional coal and oil bills of the "cheap" locomotive are equivalent to waste in propulsion, while the simile between the repairs bill of the locomotive and the bicycle is too obvious to need mention.

Italy Waives Duties.

To encourage the development of trade, the Italian Government has resolved to create a number of free ports, the first to be designated being Genoa, Venice, Naples and Catania, which are to be placed outside the customs boundary. The trading firms in these towns will have full commercial facilities.

BELT VS. CHAIN

Faults of Both Forms of Motor Drive—What is Needed—Spring Pinion Suggested.

It is too early yet to forecast the result of the battle now being waged between the chain and belt methods of power transmission on motor bicycles. The advocates of the belt have a very poor opinion of the chain, and vice versa; and this regardless of the fact that neither is altogether satisfied with the particular drive that he is using.

The two systems are, of course, diametrically opposed. The belt will slip, try as users will to prevent it. No amount of tightening, no adoption of a V or half-round or other shape, avails to overcome this weakness; if it can be brought within reasonable bounds that is all that can be expected. Similarly, the chain cannot be made to abate one jot of its positiveness. Every particle of power communicated to the shaft is reflected in the chain, and something must go. Usually it is the entire machine, of course, that is driven forward in the usual manner, but occasionally it is the chain; and then there is the deuce to pay.

Until some one hits upon a happy meansome way of making the chain less positive or the belt more positive—there will continue to be trouble.

A suggestion is made that the use of a spring in the hub pinion—something on the order of the spring chain wheel which some one brought out a few years ago—might do the trick. It is claimed that this would allow chains to be used to greater advantage by supplying the elasticity requisite to absorb the vibration and shock of the motor, while still maintaining drive without loss by slip, and without requiring the constant re-tensioning of the belt drive.

When the Tide Turned.

In 1892, England's export of bicycles to this country attained a value of \$1,277,330. In 1897, the tide had turned, the United States in that year shipping to the United Kingdom \$2,295,620 worth of bicycles and receiving in return but \$121,540 worth, which represented the expiring gasp of the foreign bicycle in America.

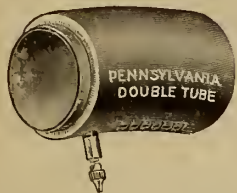
One Sign of Promise.

As one of the signs not without significance to the trade, the order for cycle path tags for 1902 placed by the Minneapolis authorities is of interest. The order calls for 31,000 tags at \$50 per thousand. It was placed with a Newark (N. J.) house.

Another way to Avoid Slipping.

A new tire designed to prevent, or at least to lessen, the liability to sideslip has a pronounced bead running around the centre of the tread of V shape, the V being intersected with notches at intervals.

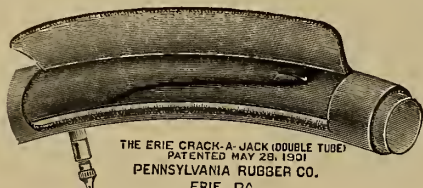
Jobbers be Wise!



Handle these
Goods and
MAKE MONEY.

STAY WITH THE GOLD MEDAL WINNERS.

Write for
our
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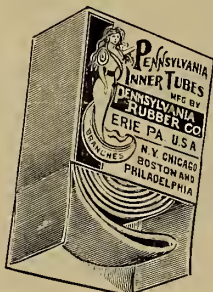
THE ERIE CRACK-A-JACK (DOUBLE TUBE)
PATENTED MAY 29, 1901
PENNSYLVANIA RUBBER CO.
ERIE, PA.

Don't close
until you
consider
our entire
line.

**PENNSYLVANIA
Rubber Company,**
ERIE, PA.

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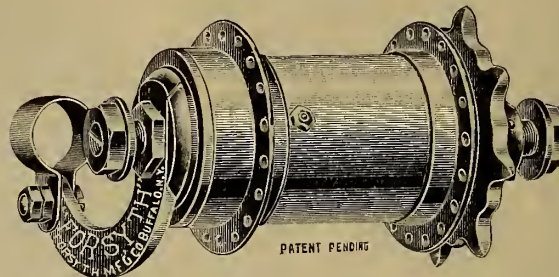
NEW YORK CHICAGO BOSTON
BUFFALO PHILADELPHIA



Improvement is still the order
of the age.

THE FORSYTH IS A COASTER BRAKE OF TO-DAY

not of yesterday.



It embodies more real improvements than any
other on the market—not merely alterations,
mind you, but genuine improvements.

**YOU SHOULD NOT PERMIT YOURSELF TO REMAIN
IN IGNORANCE OF THEM.**

It will afford us pleasure to post you,
FORSYTH MFG. CO., - BUFFALO, N. Y.

WATCH THIS SPACE

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of a bicycle you want.

MADE BY THE

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STAR RECORD BRIDGEPORT

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Send for Quotations and Particulars.

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313-317 BROADWAY, NEW YORK.

The Week's Patents.

685,756. Velocipede. Charles H. Gifford, Syracuse, N. Y. Filed Sept. 1, 1900. Serial No. 28,770. (No model.)

Claim.—1. A velocipede comprising a driving shaft provided with a sprocket wheel, a revoluble driven member, a sprocket wheel movable independently of the driven member and having its axis substantially coincident with the axis of the said driven member, an idler, a chain connecting the sprockets and idler and actuated by the rearward rotation of the driving sprocket for rotating the driven sprocket forwardly, and a clutch member actuated by the forward movement of the driven sprocket for locking the driven member thereto.

685,806. Lamp. Henry W. Weber, West Bay City, Mich. Filed March 28, 1901. Serial No. 53,313. (No model.)

Claim.—1. In combination with a lamp having a front lens and two colored side windows; flat doors hinged to the lamp at the rear edge of each pane, the forward end of each door having an inwardly turned flange adapted to overlap the lens when the doors are closed; a reflector on the inside surface of each door, and means for locking the edges of the flanges together when the doors are closed.

685,850. Velocipede Driving Mechanism. Frank A. Kelley, Susanville, Cal. Filed May 28, 1901. Serial No. 62,287. (No model.)

Claim.—1. A bicycle saddle pivoted to turn laterally on a support in the vertical longitudinal plane of the bicycle, and provided with jointed rods, in combination with the rods jointed to frame and the rods jointed to said rods as well as to the pedal cranks as shown and described.

685,993. Carburetter for Explosive Engines. Francis Le Blon, Billancourt, France. Filed Nov. 21, 1900. Serial No. 37,312. (No model.)

Claim.—1. In the carburetter of the class described, the combination with a receptacle, a liquid inlet in the bottom of same, and a controlling valve for said inlet, of a suitable float within the receptacle and suitably connected with said controlling valve, a second receptacle secured to and arranged within the outer receptacle, a suitable ejector at the centre of the inner receptacle and communicating with the interior of the outer receptacle, a suitable cover above said recep-

tacles, means for admitting air into the carburetter, an outlet pipe carried by said cover and extending around the ejector, means for heating the air admitted into the carburetter, and means for heating the mixture of hydrocarbon and air, substantially as set forth.

686,034. Bicycle Frame. Charles S. Dikeman, Torrington, Conn. Filed Dec. 23, 1898. Serial No. 700,138. (No model.)

Claim.—In a bicycle frame, the combination with the bars or tubes thereof, of a segmental plate secured to said bars or tubes and connecting the same, a nipple projecting from said segmental plate and entering one of the tubes of the frame, a sleeve disposed against said segmental plate, bearings for balls located inside of said sleeve, narrow strips located under the ends of the sleeve and abutting at their ends against the lower edges of the segmental plate, the ends of said segmental plate and the lower faces of said strips being screw threaded, and rings screwed on the ends of the segmental plate and over said strips and inclosing the latter.

686,044. Holder for Repairing Bicycles. Eugene W. Flint, Pasadena, Cal. Filed March 1, 1901. Serial No. 49,498. (No model.)

Claim.—1. A holder, for holding bicycles while being repaired, comprising two retaining rails having transverse notches in the upper edges thereof; crossbars attached to the retaining rails at each end thereof; supporting legs centrally attached to the retaining rails, adapted to hold one end of the holder, at a time, in an elevated position.

686,140. Vehicle Propeller. Robert C. Roth, Killion, Ind. Filed April 5, 1901. Serial No. 54,527. (No model.)

Claim.—1. In combination with a lever comprising an upper section, an intermediate section and a lower section, said sections being flexibly jointed together and normally extended in the same direction by springs, a movable support to which the upper section is fulcrumed and means to operate said upper section, substantially as described.

686,156. Spring Seat Post. George W. Snyder, Grand Rapids, Mich., assignor to Charles H. Berkey, Grand Rapids, Mich. Filed Oct. 30, 1900. Serial No. 34,961. (No model.)

Claim.—1. The combination with a seat post provided with a screw thread and a plurality of openings, of a seat support hav-

ing a plurality of grooves, a plurality of balls adapted to fit in said grooves and openings, and a conical nut engaging with the screw thread of said post and bearing against said balls, retaining the same securely within said grooves and openings.

The Retail Record.

Cold Spring, N. Y.—W. A. Ladue has opened a repair shop.

San Jacinto, Cal.—Pierre Baker, removed to the Slater building.

Sidney, Cape Breton—W. M. McNeil, removed to Ross block.

Syracuse, N. Y.—Spalding & Co., fire; loss slight.

Pawtucket, R. I.—A. F. & F. Bray, fire; loss slight.

Englewood, N. J.—G. J. Scott has bought out George N. Lemmon, 47 Dean street.

Parkersburg, W. Va.—J. H. Barlow has purchased the business of the Parkersburg Cycle Co.

South Norwalk, Conn.—Fox Cycle Co.; E. S. Bulkley has purchased the interest of E. H. Fox, and will continue the business.

Baltimore, Md.—William McAllister; loss by fire.

New York, N. Y.—The Hart Cycle & Automobile Co. has taken judgment for \$103 against Edward F. Stratton.

Green Bay, Wis.—Oscar F. Mann has filed petition in bankruptcy. His liabilities are placed at \$5,895.70 and his assets at \$1,383.52. Exemptions amounting to \$800 are claimed.

Charlotte, P. E. I.—Ernest Rice has purchased the business of Mark Wright & Co.

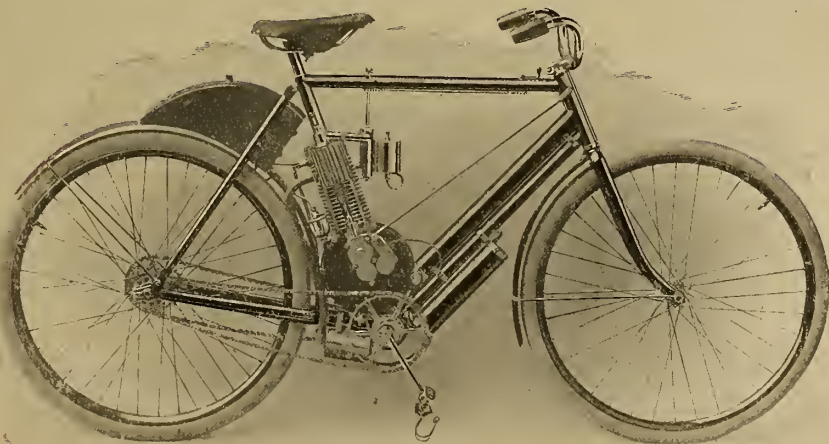
Pontiac, Mich.—Beattie & Tobin, removed to Saginaw street.

Los Angeles, Cal.—A. C. Leonard, closed.

Recent Incorporations.

Evansville, Ind.—The Jenner Cycle Co.,

Knoxville, Tenn.—Southern Rubber Tire Co., with \$50,000 capital. Incorporators, W. R. Gideon, R. W. Williams, A. H. Martin, Pryor Brown, William S. McCulla, C. T. Williams, Alex McMillan and John W. Green.

"IT'S H—L ON HILLS."

This was the admiring if emphatic remark of one of the many hundreds who have tried the Indian motor bicycle. We quote it here because the Indian has been built to climb hills in the belief that the motor bicycle that will not do so—and few of them will—is a disappointment. If the bicycle is good on the hills it is good on the level and everywhere else. Its compactness, its eye-pleasing lines, its power, its single-lever control and other features at once place the Indian in a class of its own.

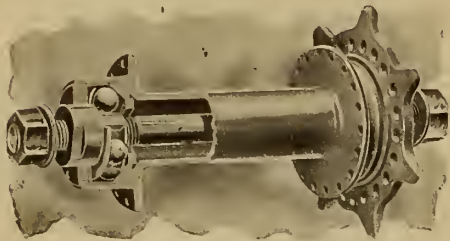
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WANTED—Everyone interested in motor bicycles to purchase "Motocycles and How to Manage Them." Contains 126 pages bristling with information. \$1.00 per copy. For sale by The Goodman Co., 154 Nassau St., New York City.

BICYCLE and Auto. Detachable Tires. Patented Aug. 13, 1901. No. 680,486. Parties manufacturing tires should investigate the superior merits of this tire. H. E. Irwin, 437 Clark St., Galesburg, Ill.

RACING

M. Bedell, of Lynbrook, N. Y., did great work in the twenty-five-mile road race of the Kings County Wheelmen on Sunday, November 10. There were seven entries, the course being the regular Baldwin-Hempstead and Freeport triangle, on Long Island. Bedell, who started from scratch, rode the course in 1:06, winning time prize.

About one thousand persons assembled at the Vailsburg track last Sunday and shiveringly witnessed the grand finale of the racing season. In the half-mile professional, Kramer, Freeman and Butler lined up in the final heat. Butler took the lead at the start and led until the bell, when Freeman went to the front. At the far turn Kramer started his sprint, and when the stretch was reached he was a length in the lead. He maintained this advantage to the end. Time, 2:01 2-5. In the ten-mile professional handicap John King, with a handicap of 380 yards, won in 27:00 2-5. He also crossed the tape first at the end of every lap save one. Kramer dropped out at the end of two laps, and Butler fell back and paced King for eight miles. Krebs (200 yards) second, Freeman (100 yards) third. The one-mile amateur handicap was won by Schlee (40 yards), Billington (scratch) second, Glasson (40 yards) third. Time, 2:03 2-5.

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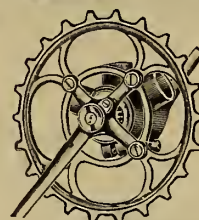
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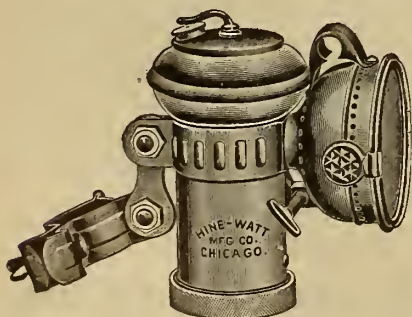
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The Bicycling World

AND MOTOCYCLE REVIEW.

In which is incorporated "The Wheel and Cycling Trade Review" and the "American Cyclist."

Volume XLIV:

New York, U. S. A., Thursday, November 21, 1901.

No. 8

CROSBY IN THE BREACH

Blocks Snyder's Surrender of Bottom Bracket Suit—Snyder Denounced.

When the treasury of the Cycle Trades Protective Association became exhausted last winter and it seemed that the suit of the American Bicycle Co. vs. the H. P. Snyder Mfg. Co. for alleged infringement of the Smith-Owen bottom bracket patent, which the association was defending, would go by default, five members entered into an agreement to stand together and fight the case to a finish. The five were the Crosby Co., the Iver Johnson Arms and Cycle Works, the National Sewing Machine Co., the Toledo Metal Wheel Co. and the Snyder Co.

Several weeks since, and without notice to the others, the Snyder people made peace with the A. B. C. and consented to the entering of a decree against them. The formal motion to this effect was made before Judge Coxe, in the United States Circuit Court at Utica, N. Y., last week. The motion was urged by W. A. Redding for the complainant, and was opposed by W. H. Dyrenforth on behalf of all parties to the defence, Snyder, of course, excepted.

After hearing the arguments Judge Coxe not only overruled the motion and refused to enter the decree, but ordered that the case proceed with the evidence already taken in behalf of all the parties interested in the defence who have contributed toward defraying the expense of conducting it, and that the Crosby Co., of Buffalo, be added to the record as an intervening defendant. Judge Coxe based his ruling in this case upon the well settled principle that "parties in a suit include not only those whose names appear upon the record, but all others who participate in the litigation, by employing counsel, by contributing toward the expenses, and who in any manner direct the course of the proceedings."

In his argument for the defendants Mr. Dyrenforth reflected the feeling against Snyder that exists. He stated that the refusal of the court to countenance the Snyder Co.'s surrender "would prevent them from profiting by their own wrong in treacherously violating a contractual obligation toward the

other parties to the contract, for whom it had acted as trustee in the interests of all the parties"; he charged that the Snyder Co. "had abused the confidence placed in it by trying to betray the others, taking unfair advantage of its position as defendant of record, and as the one given charge of the direction of the defence in behalf of all concerned under the contract."

The defendant's attorney also took advantage of the opportunity presented at the hearing of this motion at Utica to present to the court a motion for a rule on Mr. Redding to produce for use in the Snyder suit the testimony and exhibits that were adduced in the former suit on the bottom-bracket patent of Owen vs. Pope Mfg. Co. before Judge Townsend, at Hartford, Conn., but which was discontinued, all the evidence in that suit being suppressed and having come into the possession of Mr. Redding when the patent was bought by the A. B. C. Judge Coxe granted the motion as to certain exhibits specified in it, with leave to renew the motion for the production of more of the suppressed evidence upon showing it to be material to the issues in the suit against the H. P. Snyder Mfg. Co.

The substitution of the Crosby Co. as the defendant in this case practically disposes of the separate case brought by the A. B. C. against Crosby, and renders unnecessary the retaking of the evidence adduced in the Snyder case; that suit will now be held in abeyance.

It is alleged by his late colleagues that in return for his recognition of the patent and consent to the entering of the decree Snyder was to receive a free license and a release from all claims for past infringements, he on his part agreeing to henceforth purchase 60 per cent of his parts from the Automobile and Cycle Parts Co.

The Snyder company assert that the charge that they arranged their settlement with the A. B. C. without the knowledge of the other parties to the defence is untrue. They advance as proof the fact that all parties were notified to attend the hearing at Utica before Judge Coxe. The Snyder people do not, however, make plain whether they or the court caused the notices to be served, or whether they informed their former colleagues when they first entered into negotiations with the complainant.

FALLING OF THE OLIVE

Court Asked to Declare it Bankrupt—Note for \$10,000 Disputed on Grounds of Usury.

Efforts to throw the Olive Wheel Co., Syracuse, N. Y., into bankruptcy are now being made, with every prospect that the effort will succeed.

Application to that end was made last week to Judge Coxe, of the United States Circuit Court. The names of the creditors of the company who are behind the action are not disclosed for the present until subpoenas are issued. It is also understood that Francis W. Gridley, president of the company, and other large stockholders, will not oppose the proceedings. In the case of incorporated companies voluntary petitions in bankruptcy cannot be maintained.

The bankruptcy proceedings follow the levy on a portion of the Olive company's assets under execution issued on a judgment for \$221.48 taken against the Olive Wheel Co. by William D. Andrews. The property is advertised to be sold. It is held to be an act of bankruptcy for such a levy to be made and the property to be advertised when no action to stay the sale or vacate the levy is taken by the defendant before five days of the time set for the sale.

Several levies have been made under execution on other judgments taken against the company, but until the Andrews levy was made they have been vacated or withdrawn.

Mr. Gridley has made the statement that the offer of compromise made to the creditors was accepted by a number of those holding the larger claims. An extension of time was also asked, but it is said that some of the creditors refused to comply with the request. While nominally placed at \$50,000, it is not believed that the Olive assets are worth more than \$5,000.

An action to have a promissory note for \$10,000 made by the Olive Wheel Co. and indorsed by Mr. Gridley for \$10,000 declared void, and to set aside the transfer of capital stock of the Salt Springs National Bank and the Syracuse Cigar and Tobacco Co. given as collateral security, is on the calendar of the Special Trial Term. The grounds on which this is asked are that \$100 was extorted usuriously when the note was made.

SCREW STANDARDS

British Trade Takes a big Stride Forward— The new Scale Adopted.

What is undoubtedly the longest step in the direction of the standardization of screw threads was taken recently in England.

As was stated in these columns a few weeks ago, the Cycle Engineers' Institute has been working on the matter for some time. As a result of this a comprehensive plan for a new set of standards has been submitted by the council of the institute to that body for approval. No trouble was experienced in obtaining the indorsement of the institute, and it is now "up to" the trade to take such action as is necessary to make the new system a success. Sufficient indorsement has already been received to make this almost certain.

The aim has been to reduce the number of different threads as much as possible, while at the same time having them conform with some degree of closeness to those now in use in the different factories. Both of these objects have been attained. In fact, it is remarkable how the difficulties in the way disappeared as soon as the subject was vigorously attacked. The differences were found to be much less irreconcilable than was generally supposed, the changes rendered necessary if a standard was to be conformed to much less radical. There appears to be a very hopeful feeling regarding the adoption of the report by the Institute.

The new standards are set forth in the appended tables.

TABLE NO. I.

Diameters in inches.	Threads per inch.	Diameters in inches.	Threads per inch.
.050 to .084	62	.155 to .199	32
.085 to .099	56	.200 to 1.000	26
.100 to .124	44	Above 1.000	24
.125 to .154	50		

TABLE NO. II.

Diameters in inches.	Threads per inch.	Suitable for such parts as—
.056	17	62 right hand Spokes.
.064	16	62 right hand Spokes.
.072	15	62 right hand Spokes.
.080	14	62 right hand Spokes.
.092	13	56 right hand Spokes.
.104	12	44 right hand Spokes.
.125	10	40 right hand Small screws, as used in free wheels.
.154	8	40 right hand Chain coupling.
.175	7	32 right hand
.1875	3-16	32 right hand Chain adjusters, brake screws, etc.
.250	1/4	26 right hand Crank cotters.
.266	—	26 right hand
.281	—	26 right hand
.3125	5-16	26 right hand Front hub axles, seat and head pins, and saddle clip bolts.
.375	3/8	26 right hand Back hub axles.
.5625	9-16	20 right & left Pedal pins.
1.000	1	26 right hand Steering column.
1.290	—	24 left hand Hub lock ring.
1.370	—	24 right hand Hub chain wheel.
1.4375	17-16	24 left hand Multiplet, motor, or hubs with 5-16 inch balls lock ring.
1.500	1 1/2	24 right hand Multiplet, motor, or hubs with 5-16 inch balls chain wheel.

In arriving at their conclusions the council has been influenced principally by the following considerations:

The general practice as shown in the returns of the various makers.

The desirability of reducing the number of pitches to a minimum and avoiding the use of more than one pitch for parts of the same diameter.

The fact that modern material admits of different treatment from material which was in use when earlier forms of threads were introduced.

The altered methods of production of screws and screwed parts, arising from the use of automatic machinery.

The uniform practice in a few special cases in which standardization practically exists.

It will be noticed that the council recommends 26 threads per inch for all spindles and clip bolts, and in fact all parts between .200 inch and 1 inch. In view of the fact that a number of firms gave in their returns 24 threads for these parts, it is necessary that reason should be advanced for recommending 26 threads. It was found that the prevailing tendency in establishing new parts was to favor finer threads, particularly on parts by which adjustments are effected. In other parts, such as ball head lock nuts and cotter pins, it was considered that the strength of the parts was more effectually retained than if the coarser pitch were adopted.

The council recognized that the exigencies of design will call for other diameters than those set out in Table II. (though the proposed pitch in relation to the diameter may always be maintained, but to ensure interchangeability of free wheel clutches and the like, and certain nuts and bolts, they particularly recommend that the exact diameters of threads cited for hub ends, wheel spindles, head locking pins, crank cotters,

and seat lug bolts respectively be adhered to as being those at present more generally used.

The form of thread which the council recommends is one having a contained angle of 60 degrees, with one-sixth of the pitch taken off at the top and left at the bottom, the resulting top and bottom being rounded to a radius of one-sixth of the pitch. After considerable research among the records and tabulated data of engineering practice in England and abroad, it is felt that the angle suggested is being recognized as the most mechanical, and as the one for which tools and gauges can be most readily produced within commercial limits of accuracy.

Practice has also proved that the recommended form is particularly suited for screwing dies and the screwing tackle generally employed in repetition work. Inasmuch as many of the threads at present in use have been developed from hand chasers, it is believed that there is a considerable form in the direction of a shallower thread, as recommended by the council.

Each Will Sell its Own Tires.

Through another swing of the pendulum the Hartford Rubber Works Co. has ceased to market the product of the India Rubber Co., of Akron, and will henceforth confine itself to the sale of its own output.

As a result the India Rubber Co. will not only manufacture but sell its low priced tires, among which the New Brunswick tire will hereafter be included.

It will be recalled that about a year ago the Hartford people took over the entire output of India tires and marketed it through their selling organization.

Miller Joins the Firm.

A. K. Miller, formerly with the Matthews & Willard Mfg. Co., Waterbury, Conn., has joined the jobbing firm of Daniels & Walsh, of this city, the style of which is now Miller, Daniels & Walsh, with offices and salesrooms at 63 Reade street. They will market the Duplex, Meteor and Cyclops gas lamps, and the Ever-Ready, a new oil burner.

Butler Returns to old Loves.

Press dispatches from Butler, Ind., state that the Butler Co., of that place, will discontinue the manufacture of bicycles. The concern's original lines—windmills and tanks—will hereafter constitute the product. It is also rumored that vehicles will be added.

Springfield Thomas Quits.

The Thomas Mfg. Co. of Springfield, O., will discontinue the manufacture of bicycles, confining itself hereafter to the production of agricultural implements. The concern has cut no figure in the trade for several years.

Recent Incorporation.

Webster City, Ia.—Neff Handle Bar Co., with \$5,000 capital. The officers are Charles Closs, president; C. F. Smisor, secretary, and Adolph Closs, treasurer.

CHASING THE RAINBOW

Some Sidellights on the Stampede to Automobiles—"Angels" That Come not.

"One of the worst features of the semi-stampede of the cycle trade to the automobile industry is the position of the smaller dealers and repairmen who have joined in it," remarked the man from Philadelphia. "There must be hundreds, if not thousands, of these little fellows throughout the country who think they see the millions that are not yet in the automobile business. They have raked their dimes together and bought a running gear here, a steering knuckle there and other parts somewhere else, and at great expense of time and labor made a few parts of their own and 'embarked in the building of automobiles.' Some of them really have turned out a vehicle that will run; others have never got their productions outside their shops.

"Most of them seem possessed of the idea that if they can but turn out one carriage that an angel with capital will perch on their shoulders and buy them a factory. The remainder go on the principle that, their labor counting as nothing, they can build more cheaply than the big manufacturers, and that therefore men with money in hand are simply waiting to pay their price; they figure that the profit on their first vehicle will enable them to build two more, the profit on these two three or more, and so on in an alluring and increasing ratio.

"If a census could be made of the men who have built, or assembled or partly assembled, one vehicle, I think the result would stagger a few people. There must be hundreds of them awaiting purchasers or 'angels.' Ambition is well and proper, but there is nothing so pitiful as misdirected ambition; and just now the automobile is responsible for an awful lot of it; there are chunks of it laying loose in pretty nearly every Podunk in the country.

"The Bicycling World hit it about right when it said that if one-half the energy and enthusiasm now being wasted or misdirected on automobiles were concentrated in the cycle trade, the cycle trade would be a great deal livelier and better for it. The trouble appears to be that the average American cycle tradesman is looking for 100 per cent dividends. The year that pays the 10 or 20 per cent with which other merchants and manufacturers are content he reckons as akin to dead loss. He is looking for 'big money,' and the moment his business fails to earn it it loses interest for him. Instead of being satisfied with modest returns that are likely to endure for a lifetime, the get-rich-quick type of man promptly proceeds to let his old business 'slide' and to look around for something that the world appears to be crying for at the particular moment.

"Ask the average cycle dealer, 'How's

business?' and in nine cases out of every ten will come the answer, 'Rotten.' Discuss the subject with the same man for a few moments, and in about the same proportion you will finally obtain the deprecating admission, 'Oh, I'm making a living out of it, and perhaps a little more, but'—I've heard that admission so often that when it is not forthcoming I am distinctly disappointed.

"Were I asked to diagnose the ailment of the cycle trade, I should describe it as a case of 'automobilious butts.' Time alone, not medicine, will effect the cure."

Australia's New Duties.

The new Australian tariff, which went into effect October 8, the full transcript of which has just reached these shores, of course, affects bicycles among other things. The provisions and duties, so far as they relate to the cycle trade, are as follows:

Bicycles, tricycles and similar vehicles: Vehicles and parts thereof, cycle parts (except tires), plated, enamelled, polished or otherwise completed, or brazed or permanently joined, including cycle accessories, and motor vehicles, 20 per cent. ad valorem.

Cycle parts not otherwise specified, 15 per cent. ad valorem.

In dia rubber or other hose, and manufactures n. e. i., in which India rubber forms a part, including cycle and vehicle tires, 15 per cent. ad valorem.

Sends Sample Lamps Free.

If price talks, Miller, Daniels & Walsh, 63 Reade street, New York, should cut quite a swath in the lamp trade next season. The jobbing quotation on their new oil burner, the Ever-Ready, will permit it to be jobbed at 50 cents, and as evidence of their faith in the article the firm will furnish samples gratuitously. The lamp is of brass, nickel plated, put together without solder, and stands 5½ inches high.

Buyer Leacock Resigns Suddenly.

R. J. Leacock, buyer for the bicycle department of the Norvall-Shapleigh Hardware Co., of St. Louis, Mo., has suddenly resigned his position with that company. Mr. Leacock is one of the best known buyers in the trade, and has built up an enormous business for his house. His move is therefore in the nature of a complete surprise, and occasions much speculation.

"Mfg." Instead of "Bell."

The New Departure Bell Co., Bristol, Conn., has given way to the New Departure Mfg. Co. The change, however, is one of name only, and becomes effective December 1. It is in the nature of a logical move, bells now being but one of many articles manufactured by the company.

Victor Still in Balance.

The J. Stevens Arms and Tool Co. state that the report that they had abandoned the manufacture of Victor bicycles is premature; they are still considering the matter, and a decision will probably be reached by December 1.

LIGHT THAT FAILED

Oil Man Explains the Obstacle to the Candle Lamp for Bicycles.

It is a far cry from candles to coal oil or coal, apparently, yet the connection is a very close one.

To the lay mind the manufacture of candles is a very simple matter. Given a sale or a use for them, the production of a sufficient quantity is about as easy a matter as the procuring of a pound of nails or a peck of potatoes. One has but to order the few ingredients required and make them up into candles.

The ordinary tallow dip may be made in this manner, and without the expenditure of any large amount of gray matter. But wax or paraffin candles are quite a different proposition, and, strange as it may seem, the quantity of paraffin is limited and cannot be exceeded; at least, it is not a commercial proposition to exceed it.

This condition of affairs was ascertained by the Badger Brass Mfg. Co. not long ago, when they had under consideration the manufacture of a candle lamp. There appeared to be a demand for such a lamp from cyclists who did not care to take the trouble to keep oil or acetylene lamps in order. As was stated in these columns at the time, everything was ready to go ahead with the manufacture of the lamps, when it was discovered that the wax or paraffin for the candles could not be procured in this country.

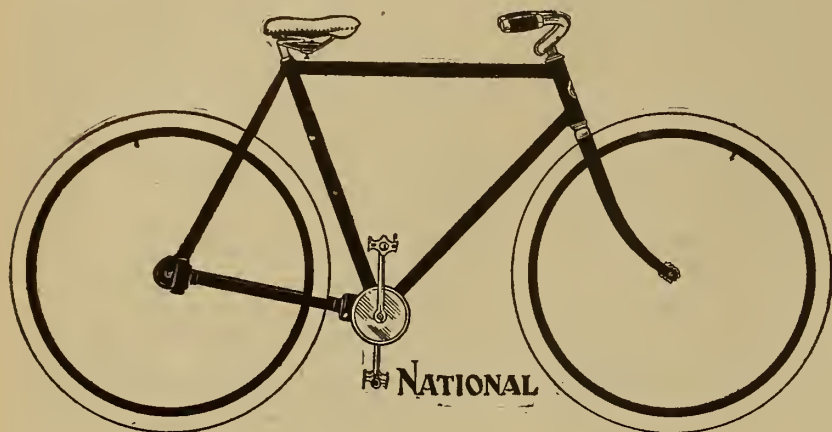
In a conversation with one of the trusted employes of the Standard Oil Co., the Bicycling World man learned why his company could not supply more paraffin than they were already doing.

Paraffin is one of the last products of petroleum, and from every barrel or thousand barrels of the latter it is possible to extract just so much paraffin. Now, paraffin is a commodity that is very much in demand. It is used not only to make candles, but all sorts of insulating materials and a large number of other articles. The regular demand is great enough to absorb all that can be produced, and when any new demand arises, or any increase in the present one, there is no reserve product to meet it.

Consequently, when a call was made for more paraffin the Badger Co. struck a snag. There was just enough of it produced to go around, and any extra demand must result in a shortage somewhere or an increase in price, the only alternative being an increase in the production of refined petroleum.

The latter was, of course, out of the question, for the reason that it would upset the balance, always preserved with difficulty, now maintained in the production of petroleum products. Hence the demand for more paraffin was received with dismay instead of joy, and such a gloomy picture painted of the difficulty of getting it at present prices that the whole scheme fell through.

THE NATIONAL CHAINLESS WAS FAR THE BEST WHEEL I EVER MOUNTED.



GRAND HAVEN, Oct. 14, 1901.

Gentlemen:—I have nothing but praise to offer regarding the National Chainless. The one I got for my personal use was far the best wheel I ever mounted, and so say at leasy fifty of our citizens who have had the pleasure of riding it. We want to make your line our leader in 1902.

Yours respectfully,
McCAY BROS.

THE NATIONAL IS WORTH HAVING AS A LEADER.
WHEN DO YOU WANT TO SEE OUR TRAVELER?

NATIONAL CYCLE MFG. CO.,

-

-

BAY CITY, MICH.

YOU CANNOT DO IT.

You cannot buy the best tires at the price of the poorest. Good rubber, good fabrics and good workmanship, like refined gold, command a certain market price. If you pay less than this price you get an inferior article.

FISK TIRES

are sold at the lowest price at which the best tires can be sold. They are also sold at the highest price you need pay in order to get the best. If you pay more than the price of the Fisk you pay for something of no value to you. If you pay less than the Fisk price you get a poorer tire.

FISK RUBBER COMPANY,

=

CHICOPEE FALLS, MASS.

BOSTON,

604 Atlantic Ave.

SPRINGFIELD,

40 Dwight St.,

NEW YORK,

83 Chambers St.

PHILADELPHIA,

916 Arch St.

SYRACUSE,

423 So. Clinton St.

BUFFALO,

28 W. Genesee St.

DETROIT,

252 Jefferson Ave.

CHICAGO,

54 State St.

SAN FRANCISCO,

114 Second St.

THE BICYCLING WORLD

FOUNDED 1877
and MOTORCYCLE REVIEW

In which is Incorporated
"The Wheel" and the "American Cyclist."

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Change of advertisements is not guaranteed unless copy therefor is in hand on SATURDAY preceding the date of publication.

Members of the trade are invited and are at all times welcome to make our office their headquarters while in New York; our facilities and information will be at their command.

To Facilitate Matters Our Patrons Should
Address us at P. O. Box 649.

NEW YORK, NOVEMBER 21, 1901.

One Way to Better Trade.

While it was natural that the fizz and fireworks should subside, the almost utter absence of cycling enthusiasm that followed the bursting of the boom is difficult of full appreciation.

That the trade itself is responsible in a great measure is worthy of some consideration.

The suggestion comes as the result of a discussion in which the question, "Why do you not ride oftener?" was put to a wheelman who within the last year had located in this part of the country.

In his native place he was noted as a consistent rider and enthusiastic clubman and organizer.

His reply to the question, "I can find no congenial spirits to ride with," led to more or less similar admissions on the part of

others who had shared the discussion—admissions which, it was afterward agreed, surprised even those who made them.

It is reasonably safe to say that at least a fair proportion of those who put the question to themselves will find themselves sharing the opinion.

The dealer's responsibility in the matter can be measured by his attitude in the past.

In the good old days before the boom, and before the boom brought fleeting affluence to the trade, the dealer was concerned in every movement that affected cycling.

Generally speaking, he was, if not the promoter of it, he was more than apt to be in the thick and forefront of it.

He was a big factor in club life, in L. A. W. work, in the coasting contests, the hill climbing contests and the road races, in sidepath and good roads endeavor, and in pretty much everything else that aroused enthusiasm and interest and that advertised the bicycle. He was essentially a cycling leader in his community.

Does anything that even begins to suggest such a state of affairs exist to-day?

We all know that it does not.

The dealer became "too busy to ride with his club" or to devote a moment to anything that did not directly promise the return of a money profit.

He was among the first to abandon the club and the League and everything save his own immediate affairs.

If afterward he ever had an idea that might have benefited the cycling interests he could not put it into practice if he would; usually, however, he rarely was burdened by ideas of the sort.

He simply drew himself into a hole, and there he is peeking out of it to-day.

Cycling clubs are few and far between, ditto road races, ditto hill climbs, ditto coasting contests; the L. A. W. has become a mere shadow, sidepaths are becoming grass grown cowpaths, good roads have become the prattle of automobilists. The man or woman who might purchase a bicycle if enthusiasm existed or congenial and cyclingly informed companionship was easily formed must seek far for it; the wheelman or wheel-

woman who would "ride more" were he or she sure of finding companionship at a given time and place can be sure of nothing of the sort.

Cycling affairs have reached the dead level of monotony, in this country at least.

Abroad the monotony is far less monotonous. Clubs have diminished in number, of course, but they are still of sufficient strength to give the cycling interests life and movement and to make themselves heard; the national organizations are in full strength, the French Touring Club numbers nearly 80,000 members, and the Cyclists' Touring Club is as strong.

We have no false ideas on the subject.

The days of big clubs and elaborate club-houses and processionlike club runs are, perhaps, past for all time.

We look for no great engulfing wave of renewed enthusiasm that will carry the world with it. Our point is simply this: If it is anybody's business to create and encourage and continue cycling interest and enthusiasm—if it is anybody's business to provide congenial companionship and to promote movements that advertise the bicycle—it is the cycle trade's business; it is the business of dealers in each particular city or town, since they are the ones who reap the material benefit.

If they are content only to complain and to do nothing that will arouse and advertise their interests—the cycling interests—they are to blame for their poor business or ill fortune.

In this broad land how many dealers can ask themselves the question, "Have I done anything to arouse or stimulate cycling interest?" and answer it affirmatively?

Can you?

If you have not done so, if you do not so, who will?

Put the interrogation to yourself and face it squarely.

If you care to take refuge in the house of What's-the-use, if you prate of "the folly of regalanizing a corpse," you will do nothing and nothing will be done. You will continue to curse your luck, and the dead level of monotony will continue.

It is fallacious to contend that the bicycle is in the fullest sense a necessity. It is cheaper to walk or use street cars.

Bicycles will always be purchased, of course, but that business which is devoid of enthusiasm will never command large or increasing sales.

It must either stand still or go backward.

It is only the actual necessities of life—the foodstuffs and clothing and what not that are required to sustain the vital spark—that require no enthusiasm to maintain their volume of sales.

And the sales even of these are bettered by a display of enthusiasm, by an effort to arouse public interest.

The Uneeda biscuit is a case in point.

The "bargain sale" of dry goods or other wares is but a form of commercial enthusiasm—of sales promotion.

Some trades, as in these instances, can arouse the interest by a generous use of advertising space.

But the cycle trade is not one of them.

It is among the number that must rely on indirect advertising or other effort for enthusiasm.

The railways are, perhaps, the most conspicuous examples of this class.

The establishment and conduct of amusement or recreation parks on their routes is among the street car companies' means of promoting their business and attracting fares.

The rich and far reaching steam railway corporations are forever promoting excursions here, there and everywhere for this, that or the other purpose or alleged purpose.

The railroad business, although assured of a steady income, is being boomed year in and year out. Corps of men are employed for no other purpose.

The wine merchants, the brewers and hundreds of others engaged in business employ kid gloved or ungloved individuals who are continually circulating among men and diplomatically booming the sale of their respective wares.

There are precedents without number for similar action by the cycle trade.

The keynote to the system is the note, Do something.

When nothing is done, nothing is the result.

For three years there has been "nothing doing" by the cycle trade for the cycle trade; and yet the cycle trade has complained of nothingness!

"The idea that a falling apple will find its way into an open mouth never gave man his dinner."

But the cycle trade, to all appearances, has believed otherwise.

Its mouth has been open—there is no denying that—but the apples have fallen elsewhere.

"The apples fall to the man who shakes the tree."

When the cycle trade appreciates the full significance of this precept and begins to shake the tree it will gather apples—then and only then.

It is this policy that we urge—the do-something policy, the shake-the-tree policy.

Do something to make your business interesting, and the public will interest themselves in it.

Our suggestion is this: As the men in the trade once interested themselves in cycling affairs outside their offices or stores, so let them interest themselves again.

To be specific: Let every man who reads this constitute himself a committee of one on organization. Let him get together a few of his fellows—even a half dozen will serve—and, once together, let a cycling club be formed. Let the local papers know of it; many of those now riding bicycles have never had an opportunity to join a club if they so desired; let cushion frames, coaster-brakes, motorcycles be discussed, and let the papers hear of such doings from time to time; let riders know that companionship is readily obtainable; let an occasional run or race or tour or coasting contest be undertaken; let some attention be given the condition of sidepaths and roadways—in a word, let something be done that will create and restimulate interest in cycles and cycling.

If we stir ourselves we will stir others.

Every man in the trade felt it his bounden

duty to do so in the good old days. He can do so again if he but tries.

Try it!

Don't sit in your store or at your desk and with a sickly smile exclaim, "Impossible!"

TRY IT!

It is not impossible, and you have everything to gain and absolutely nothing to lose by demonstrating that it is possible.

It is "up to you" to prove that you know how to think and to lead and to promote your business as other men promote theirs.

Will you do so or will you acknowledge your incompetence and incapacity without so much as an effort?

A Fitting Little Thought of.

If there is one thing that is generally conceded to have gone out of fashion it is the use of rubber pedals.

Probably four out of five tradesmen of intelligence would, if asked what proportion of pedals used have rubber attachments fitted to them, place it very low. A negligible quantity, scarcely worth considering, is the general estimate of the matter.

For a number of years rat-trap pedals have been the standard equipment of all except women's bicycles. Men could obtain rubber pedals if they really wanted them, but it was a matter of some little difficulty, frequently of delay as well. Optional specifications rarely come through with any great speed.

Perhaps it is for that reason that so much outside business is done in pedal rubbers.

Certain it is that not hundreds or thousands but scores of thousands of pedal rubbers are sold annually by the concerns that make a specialty of them.

They cost but a few cents apiece, yet royalties paid on them run up into the thousands of dollars, and the few persons or concerns fortunate enough to hold good patents on them enjoy a handsome income therefrom.

The detachable pedal rubber is, of course, the only one that cuts any figure nowadays.

The fixed type has passed out of existence, notwithstanding it was once the standard. It had drawbacks and shortcomings, and it is hardly too much to say that the detachable rubber is, on the whole, a better article.

At any rate, it is the only one known to the trade and public at the present time, and it seems to be in little danger of becoming obsolete.

"SOCIETY" IS PURCHASING

England's "Swells" Attracted to Motor Bicycles—Other Items From Abroad.

London, Nov. 6.—A letter has recently appeared in a London daily pointing out that much of the prejudice against motorcycles is really due to the irritating noise made by the machines. There is no doubt that this is one of the greatest defects of the motorcycle, and it should not present very great difficulty to the maker, as the power of the motor is usually much in excess of what is really necessary for the propulsion of the whole machine at all reasonable speeds.

This being the case, it is possible to fit much more effective mufflers, because any extra amount of throttling will not have so great an effect on the motor as it would do were the engine always working up to its full power, as is the case with engines fitted to cars. Practically the motorcycle should be made very nearly noiseless, so far as the actual engine is concerned, and even the gearing might be rendered much less audible by the employment of one or more fibre wheels.

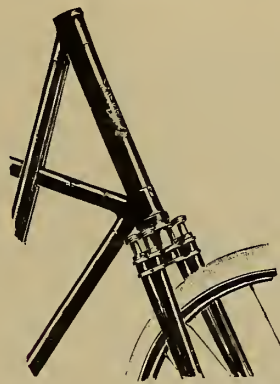
The matter is certainly well worth attention. Meanwhile it seems to me that one or two motor bicycles which are driven by chains instead of belts are extremely noisy, the uneven action of the single cylinder motor causing the chains to jump and vibrate somewhat unduly. Nevertheless, I have heard very good reports of the running of machines of this class, and hope to personally try one at an early date.

Quite a large number of motor bicycles are now on order for members of the aristocracy, and many firms report inquiries from would-be purchasers among the upper ten. Always supposing that the machines give satisfaction, there is no reason why society should not take to them readily, and in a couple of years or so we may have a "boom," and the London parks may be turned into riding schools much as they were in 1896 and 1897. Moreover, as the motorcycle will not cause its rider to perform hard work, it is more likely to last in favor than the cycle, which, however beneficial, did "make a fellow beastly hot, dontcherknow?" which was an argument against such machines when the fashionable craze of the hour wore off a bit. On the other hand, it requires a certain amount of brain to ride and manage a motorcycle successfully, and this may possibly be a factor against its popularity with the same class.

I cannot say that I have ever been much of a believer in the trailer, even when used in connection with a motor tricycle, and I certainly think that for ordinary purposes it is hardly likely to prove a success on the motor bicycle. But this past season there has been quite a small trade done in "rickshaws" made to attach to an ordinary pedal propelled cycle, and so people are thinking that the same might be done in connection

with a motor bicycle. But the weight of such a machine would prove an element of considerable danger in the case of a fall, because the rider would be more or less shut in, and the "rickshaw" and its unfortunate passenger would be thrown violently onto the prostrate motor. As a rule it requires all the skill available to be sure of keeping a motor bicycle upright when travelling over greasy roads and in traffic, when sudden swerves have to be made, and all this will be very much worse when the weight of a "rickshaw" attachment has to be considered.

The complaints which have been made regarding the tires of motor bicycles have at last raised this matter to sufficient importance for the tire manufacturers to give it real attention. The Dunlop Co. are bringing out a new pattern of tire specially adapted



HUMBER'S SPRING FORK.

for motorcycles which they claim to be vastly superior when compared with anything at present in the market. The price will be high—I believe nearly double that of the ordinary section of tire—but if the new thing will wear well the initial cost will not stand in its way. At present tires, and particularly those on the front wheels of motor bicycles of the popular Werner type, wear out extremely fast, and in spite of bands and other devices, which soon go to pieces.

High Gears Hurt Pittsburg.

"I am one of the few dealers who will continue the bicycle business here," writes Charles Beltz, of Pittsburg, Pa., in subscribing for the *Bicycling World*. "The business, however, is in pieces," he adds. "Most of the dealers think the lamp ordinance worked harm, but some of the dealers and manufacturers did not help matters by advocating high gears. Pittsburg is full of hills, and we want low gears and coaster-brakes. It is hard to understand why the business here should be so much worse than in other places. I was in Buffalo and Rochester recently, and saw more wheelmen in those places than I have seen for many a day."

From Bicycles to Knitting.

The old factory of the Union Bicycle Mfg. Co., at Highlandville, Mass., has, after being idle for some time, been taken possession of by a knitting concern.

ACTIVITY IN ENGLAND

Many new Features Evolved—Cycle Show of Greater Interest Than Usual.

Changes in the 1902 pattern machines are being earnestly discussed in English trade circles. For a number of years there has been but little variation, one season's machines being almost exactly like their predecessors, but, unless all signs fail, there is soon to be a period put to this close approach to stagnation.

That there will be changes next season pretty nearly all the quidnuncs are agreed.

It is the direction they will take that causes differences of opinion. What one maker is disposed to favor may be exactly the reverse of that which a competitor deems the proper thing, and the result of this diversity of opinion is that the trade is working along independent lines.

As showing the wide diversity of opinion prevailing, the following prognostications made by a number of different English journals are interesting:

"Extremes will be the features of the shows this year—spring frames and extra rigid cross frames; light machines and extra strong machines."

"Signs are not wanting that we are about to return to a period of light bicycles. And, so far as the more expensive of the machines turned out by our leading manufacturers are concerned, so much the better, for some, if not all, of these have during the last three or four years condemned their customers to push many unnecessary pounds of weight."

"There is not the slightest doubt that the perfecting of the free wheel and the rim brake has been the primary cause of the improvement which has taken place this year in the cycle trade. Through these media many individuals have been induced to participate in the pastime, with a resulting benefit all round. We are quite in accord with the freely expressed opinion that the bottom of the depression was sounded last season, and that, although the trade may not experience a revival of the 1896-'97 'boom,' the demand for good class bicycles will henceforward be satisfactory. It is a long hill which has no top."

"Several of the big makers are talking mysteriously of the surprises they are preparing for the shows. We predict that the novelties will lie mostly in the following directions: Motor bicycles, spring frames, new frame patterns, specially light machines, speed gears and brakes, in addition to the usual startling improvements in nuts and bolts and spanners. There should be some real novelties in brakes and free wheels, while we look forward with keen interest to an examination of the many speed gears which will in all probability appear. On the whole, we think that the shows will be of as great interest as any during the last five years."

THE "REGAS"

Spring Frame Bicycle



is something you have been all waiting for. No! Do not deny it, because we know. Only give us a chance to demonstrate to you the merits of our invention and we assure you that you will place an order at once and then complain because you cannot have them that minute to sell.

Traveling men are now out with samples and when you receive a call from one please give him just five minutes and he will go out with an order.

Don't forget the name, it is the "REGAS," the dealers' back bone for 1902.

REGAS VEHICLE CO., = Rochester, N. Y.

First Impressions are Valuable.

WHEN a probable purchaser obtains a favorable impression at the outset, the salesman's task is half completed.

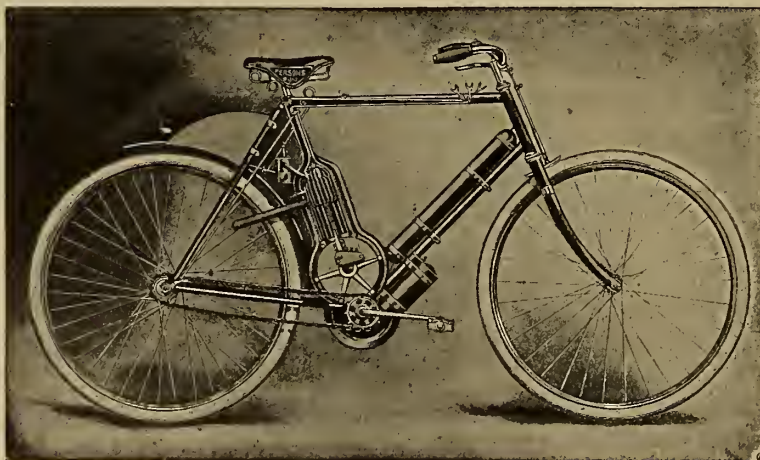
The intending "likes the looks of ready half won. him; you know

A first impression is equivalent to a half decision; —the argument—

Apropos, have man interested in who, having seen ly their pictures— ably impressed

We are not sell-

looks alone, but we believe those agents who appreciate the value of first impressions will take looks into consideration. We assert that the Royal is just as good as it looks, and we are ready to back up the assertion with substantial proof whenever you may ask for it. To-day is a pretty good time to do the asking.



purchaser who the thing" is al- You've all met how it is.

sion is equivalent it reduces the talk by more than half. you ever found a motor bicycles them all—or mere—is not most favor- by the Royal?

ing the Royal on its

ROYAL MOTOR WORKS, CHICOPEE FALLS, MASS.

WORTH OF THE WINDOW

Opinions of a Prize Essayist Coupled With Suggestions of Profit-Earning Value.

"I am reminded every day in the week, in passing unused or badly used show windows, that some one is losing the value of what should be his best investment," says H. C. Wiseman in the essay on Window Display which the Iron Age deemed worthy of its first award. "A show window is for use, not for neglect or abuse. It should be a thing of beauty, not a blot. It is an investment as surely as any other feature of the business, and intended for large results. The windows are the eyes of the store. Through them people see, are seen, and are attracted. More money is frequently put into their building and arrangement than into any other part of the business, and they as often bear more than their share of neglect. They should in part pay insurance, pay rent and pay help. They are the silent salesmen that, without expense, may be made to dispose of hundreds of dollars' worth of profitable goods each season.

"The causes of neglect are very many. Some of them are real, many more are imaginary. Lack of time, lack of taste, lack of material, poor windows and poorer locations are offered as a few among a great number, and none of them have any value whatever as reasons for neglect. We don't forget or neglect the keeping of our books, the buying of our goods, the arrangement of our shelves, the taking of stock, the changing of prices. Why this? We make time for all these things and many more.

"If one man lacks taste, another one has it, or his own work will improve wonderfully with the trying. There is never lack of material, for, if the stock be naught but nails, bolts and screws, they have great possibilities in the hands of an ingenious man. Again, the poorer the window the greater the effort should be to make it attractive; and, no matter how poor, it can be made so, witness a statement made later in this article.

"A poor location calls more loudly than all else for that which will attract in display windows, and many of our most successful merchants of to-day are, or have been, in the poorest locations, owing much or all of their success to extraordinary efforts as to store arrangement and window decoration.

"Attractive show windows are desirable always, and for a hundred good reasons. They give standing and the appearance of stability to the firm. People learn to watch for and expect to learn from them; customers are interested where the proprietor shows interest, and the proprietor is always somewhere back of good, intelligent window dressing. You frequently hear the question asked, 'Have you seen such and such new ware in Blank & Co.'s window to-day?' Your windows and what you have in them, and the prices, are carried in the hearts of more people than you know of.

"Windows sell goods beyond all other methods when properly arranged, and are desirable and attractive not only to the trade, but to the store itself, in that they are a correct barometer as to the popularity of what you have to offer. They sell more goods of a kind than would otherwise be sold, and that is the greatest point in hand. Over and over again this point is easily and readily verified.

"There are many mistakes made in arrangement and in numerous other ways, leading to bad results or no results at all, and show windows are at times charged with not being worth the time given them. A poor arrangement is bad enough; a crowded arrangement is worse, and is the cause of more failures to attract than almost any other that may be named.

"The want of selling or price cards will



NEW YORK BRANCH: 214-216 WEST 47TH STREET.

turn away many customers who would otherwise stop and decide, but who positively will not enter inside to ask it. In these days every article exhibited should show a price in plain figures. Two-thirds the work of selling is done, and this is where the 'silent salesman,' without salary, pays the bills.

"Another grievous mistake is that of not finding time to change displays often. Like an advertisement of too long standing, the eager public tires of it. The same public is every day being educated to watch for changes and for new goods and for new prices. Other mistakes are those of bad light, which can nearly always be remedied; the showing of season goods out of season, simply to fill the windows; lack of variety in goods shown, and lack of any fixtures or preparation for making exhibits attractive. These and many others are purely local, and should right themselves with ordinary attention."

Don't get discouraged if your first efforts fail to pay. The harder you find it to land a customer, the longer that customer will stay with you.—(Ex.

HOW SMALL STORES SCORE

Advantages Their Owners Have Over the big Emporiums—How to Employ Them.

Here is one advantage that the small shopkeeper will always have over the department store: There is a human note in the ensemble of a small store that the larger enterprise can never duplicate in its own establishment, and that note is the note of personality, writes James H. Collins in Printer's Ink.

Personality cannot be bought or hired on salary. The man who keeps shop in a residence district away from the centre of a city has every chance for becoming acquainted with the people who patronize him. He can learn their whims and preferences and cater to their weaknesses, while the department store can at best but put clerks behind counters who serve with one eye on the clock. If a customer is mistreated he generally gets to the door at once, and is gone before the huge system can deal with him directly.

But the small shopkeeper can fit a man, take a half hour to the task, keep him in mind after he has gone, and be ready to greet him by name and do the like a month later. If the goods be brought back he can make any amount of business capital by exchanging or refunding money direct without the intervention of a "complaint bureau." He can gain the confidence of the most disgruntled mortal (or disgruntled mortal's wife) merely by being in touch with him.

There will always be a portion of the public—by far the larger half—which prefers to deal within a block or two of its doors. If the small shopman define the streets which feed his till, study the people who live in them and bid for their patronage he will be sure to intrench himself strongly in their good favor. Advertising mediums lie readily to his hand. Neat, forceful circulars, a mailing list well looked after, a novelty at Christmas to regular customers, booklets in the bundles, window display, "bargain" sales in miniature—all are inexpensive and effective. Cards in the cars that pass his doors and bulletin boards within a radius of five blocks—even a weekly four inches in dailies—will not be out of his reach if he settle down to capture a certain neighborhood for himself. The trick is being successfully turned every month nowadays.

Motocycles as Advertising Mediums.

"Purchasing the motor attachment last February, I put it on an ordinary bicycle and in the space of one week, without any previous knowledge of gasoline motors, I exhibited it in my store window, where it attracted a great crowd, and was the means of selling a large number of bicycles," says C. R. Banks, a Canadian dealer, in giving an opinion of the Thomas motor. "As an advertisement for any one engaged in the bicycle business it has no equal. I am perfectly satisfied with my investment if it were not to run another minute."

EFFICIENCY OF CHAINS

Tests Which Show the Great Improvements That Have Been Made.

When the first safeties made their appearance, and the use of chains for the purpose of transmission was thereby rendered necessary, the chains used were decidedly more useful than ornamental.

As strength was the great desideratum and the saving of weight did not enter into the matter at all, it naturally followed that the chains fitted were both large and heavy. It was years before the widths got down to $\frac{1}{2}$ -inch, and when chain makers went beyond this and produced the $\frac{3}{8}$ -inch widths there were many misgivings entertained as to their reliability. Having been found to be all right, however, the movement was continued until chains measuring only $\frac{1}{4}$ -inch in width were reached.

When this point was passed, however, and 3-16-inch chains made their appearance there was general and, as it proved, well founded alarm. The cry went up that the limit had been reached and passed, and the feeling was that it was time to call a halt.

At the present time it is rare for a maker to use anything wider than a 3-16-inch chain, while the $\frac{1}{8}$ -inch widths are by no means uncommon. Use of the latter has convinced the trade that there is an ample margin of safety even in such frail looking chains as these, and their use is on the increase.

In this evolution of the chain improvements in design, material and workmanship have, of course, been the chief instruments at work. The chain's work has been made harder and harder—due, of course, to the increase in gears and speed of the bicycle. That the chain itself should have been made lighter and lighter is therefore the more remarkable. Frail as the modern chain looks, it is really capable of withstanding tremendous strains.

This is shown by the results of experiments conducted by one chainmaker. These experiments demonstrated what his particular chain would stand, and the results were obtained in this fashion:

"The bicycle was made fast to a post, a spring balance was inserted in a tow line. The radius of the wheel was 14 inches, the radius of the driven chain wheel or hub sprocket was 1.4 inches, or a ratio of 10. Our chief draughtsman succeeded in putting this spring balance up to over 60 pounds; the highest pull recorded was actually 67. Therefore, with a ratio of 10 we get for the chain 670 pounds.

"By this method of measuring we are independent of the gear, but directly dependent on the ratio between the hub wheel or sprocket. The gear actually used was a little over 70. The rider was exceptionally strong, and the cycle being held stationary a greater pull was possible than would probably be possible by a rider on an incline.

"But, taking some of the sharp inclines in

the town here and the speed at which an expert rider can ride them, it works out roughly to a pull of very nearly 500 pounds on the chain, and the mechanical energy, merely calculating the weight raised against gravity, goes up into higher figures than one would think possible from a rider. The rider who recorded the pull above referred to had 7-inch cranks at the trial."

Where Improvement Could be Made.

There is some room for improvement in the toolbag equipment sent out with many machines.

A good wrench is an absolute necessity if it is to be used for anything but show purposes. To the credit of the trade, it can be said that this matter is usually looked after properly.

But very frequently the good work stops there. Of course, the wrench is an adjustable one, and it is competent to make most of the adjustments. But there is almost always something extra required—some nuts difficult of access, cups and cones that require adjustment, seat post or other fastenings to look after. Spanners or other special tools are usually supplied for these purposes.

But they are not always up to the standard of the wrenches. Hurriedly and roughly made, one or two usings frequently damages them beyond repair, and there remains nothing to do but to toss them away.

It is too often the same way with repair outfits—when these are furnished. Poor cement, cheap rubber or plugs—these too often comprise the furnishings of the little bag or box which is supposed to go with every bicycle. Frequently these are even worse than useless, for they give the rider a fancied sense of security that is rudely shattered when he comes to use the outfit.

Every cent counts nowadays, of course; but the difference in cost between good tool outfits and poor ones is so slight that it hardly pays to furnish the latter.

The Matthews Way.

While cycle fittings form a considerable part of their manufactures, the H. A. Matthews Mfg. Co., Seymour, Conn., have to do with metal work of many other forms and are always ready to submit figures on special designs. They will give estimates from blue prints or drawings. Matthews's quality and workmanship has always ranked with the best; the name has never been associated with cheapness. In fact, the Matthews policy does not permit of it.

"We seek only that class of customers," they say, "who desire every part skilfully made from the best materials, and who are willing to pay a fair price for such service."

It is not every man who would take this stand and dare maintain it. The fact that the Matthews people not only dare, but do it, is testimony that speaks for itself.

Equitable Leaves Hanover Street.

The Equitable Distributing Co., Boston, has removed to 74 India street; it was formerly located at 53 Hanover street.

WROUGHT BY BICYCLE

In Light of To-day its Influence for Good is Clearly Outlined.

When the bicycle was in the heyday of its glory it came in for more kicks than half-pence.

This was, on the whole, not unnatural. It was a boisterous, pushing, assertive clientele that the bicycle had, and it is not surprising that other people's toes were trod on occasionally. By the outsider it was damned without stint.

But now the craze has passed, the good that was in the movement is being more generally recognized. For example, from a local daily this tribute to the bicycle's influence on the betterment of roads is as just as it is tardy:

Long Island, perhaps more than any other section of the country, is the debtor of the bicycle in the matter of road improvement. The magnificent systems of hard, smooth highways which are now the pride of Queens and Nassau counties owe their being very largely to the bicycle.

For years the farmers and villagers of the island were content with travelling over rough dirt roads, hub deep in sand in spots, wearing out their horses, losing time, and meeting frequent bills for wagon repairs. Then came the bicycle and a slow but certain change.

With the coming of the bicycle the first of the natives to feel the need of better roads were the roadhouse keepers on the now famous Merrick Turnpike and other highways out beyond Jamaica. These bonifaces began to hear of increasing business at the roadhouses further in toward Brooklyn. They were not long in finding out that this increase of patronage came from bicyclists who were beginning to venture out beyond the city on little trips.

The distant roadhouse men also learned another fact which set them thinking. This was that the wheelmen would extend their rides out on the island if they found roads that they could travel on with comfort. The roadhouse keepers, therefore, became earnest advocates of good roads. Then the farmers began to realize that what was good for bicycles should also be good for their market wagons and buggies.

Where the Credit is Due.

France has lodged a claim for the invention of the coaster-brake, or "free wheel," as it is more generally termed abroad. Le Velo contends that the credit belongs to MM. Barberow and Meunier, who applied the idea to a "boneshaker" in 1868. Most people will agree, however, that the men who made it practical and a marketable success were MM. A. P. Morrow and H. H. Fulton, of Elmira, New York, U. S. A.

The Wisconsin Wheel Works are shipping an average of six Mitchell motor bicycles per week to their London agents.

MOTOR BICYCLE OF FUTURE

Plausible Picture of the Model That a few Years Will Probably Evolve.

Spring frames should have a brighter prospect, now that motor bicycles are coming into vogue. Indeed, a vast field for invention and adaptation opens itself when we seriously consider the possible developments of these machines. We do not care to prophesy very much, says this delver into the future, but when we come to let the mind dwell on what the motor bicycle may be within the next decade amazement must be expressed at its possibilities.

By that time it may confidently be expected that the motor bicycle will be a handsome, light and comfortable machine. A properly cushioned frame, pneumatic tires of a practically non-skidding and non-puncturing nature and simple speed changing gear may be among the fitments. It is possible that the motor will be electrically driven, by current directly produced from some cheap, compact and plentiful material, or derived from a vastly improved storage battery which will be light, small, quickly charged and of immense capacity. The rider can possibly carry a few spare horsepowers of energy in the space of a toolbag.

Failing electricity, it is likely that the internal combustion engines will be worked by alcohol or common paraffine, without noise or smell, and simplified out of all resemblance to the present models. The engine and gear will be a small piece of mechanism almost completely inclosed, capable of high speeds and considerable power, and almost automatic in its action and lubrication.

Consider a machine of this kind which will be as light and compact, perhaps, as our present leg driven full roadster; consider it existing in patterns for women and men, and allow the working expense and the initial cost to be much lower than now, and then try to fancy any other form of passenger locomotion excelling it.

We may dismiss aerial navigation as a rival not seriously to be considered for the next decade at least, and all the other rivals, such as trains, trams, motor cars, etc., need not enter into observation, because we will concede that they must exist in some form or other to fill the multifarious needs of the time. But it is certain that to an extent their use will be modified when the motor bicycle becomes popular.

Imagine such a machine weighing forty pounds or so, and of two or more horsepower, with speeds up to thirty miles an hour, noiseless and odorless and foolproof, and working at a nominal cost! How largely it would enter into every phase of our lives! Old and young could manage these cycles, could travel great distances without fatigue, and would use them almost in every affair of business and pleasure.

The only thing that would save other types

of vehicles from dodoism is the weather. The bicycle exposes the rider to rain and sun, and under certain conditions of road surface a motor bicycle would be unsafe for nervous and clumsy people. Otherwise these cycles would be used almost universally, though we fancy that there will always be a large muster of people who will prefer the simple leg driven type. These, we hope, will be in vogue as long as the athletic spirit exists—and it is the breath of nations.

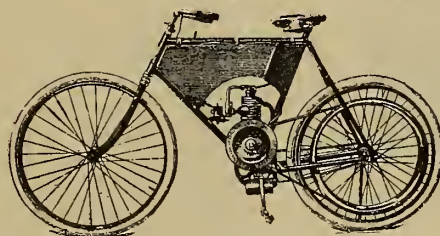
The ideal motor bicycle might, however, be so made that the motor may be disengaged at will and the muscular exercise of leg propulsion be thus provided when, where and in whatever measures the rider wills.

Option Extremes.

About this time in the years that are past the trade was wont to exercise itself over the option problem.

It was unanimously resolved that it was an evil, a nuisance, an imposition that should not longer be put up with. Then measures began to be formulated to abolish it.

Of course, nothing ever came of these resolves. The effort to effect a reform always spent itself before anything was accom-



OF BELGIAN DESIGN.

plished. The desire to sell machines, and the difficulty of fixing upon a standard of construction that would not lose sales, combined to make the task an impossible one.

The result was that another season was entered upon with the same long list of options, the same piling up in factories of machines that were standard in specification when they should have been optional, or vice versa.

And after worrying through the selling season, with plenty of friction between maker and dealer and dealer and rider, the same cry would be raised that the option evil must go.

That is the way it used to be.

At the present time a great difference is to be observed. Options have ceased to trouble, and ways and means of remedying the abuse of them are no longer discussed.

But it is doubtful, after all, whether the trade would not like a little of the old interest shown. The present indifference is too much of a jump to the other extreme to be altogether pleasant.

Advises Oil not Vaseline.

The Universal Coaster Brake Co. advise against the use of vaseline, in their coaster-brakes at least; a good heavy oil, they say, is preferable.

||PRICE NOT ALL POWERFUL

Changes Time has Wrought in the Mechanical Trades—Features Count.

"It cannot be too thoroughly appreciated that the vast development of mechanical engineering work which has been going on in the past half century, and which is still going on at an ever increasing rate, is producing a most important change in the conditions which secure both professional and commercial success," said a famous mechanical engineer in an address recently.

"In the old days our leading firms of mechanical engineers had comparatively few customers, and they had, as a rule, to meet the great variety of requirements of those customers to the best of their ability.

"Repetition work was comparatively rare, and success depended largely on resourcefulness and the power of entering thoroughly into the conditions to be fulfilled. Nowadays the successful mechanical engineer is not he who makes a great variety of things for the few, but a small variety of things for the many, at the same time producing those few things in the most perfect way.

"Such a manufacturer will not be confined to his own country for the sale of the machinery he produces, but will be able to supply the markets of the world.

"I have said that the most successful mechanical engineers of the present day are, as a rule, those who turn out a small variety of products; but I do not by this mean that the successful mechanical engineer is one who takes a narrow view of his profession and its responsibilities.

"This is certainly very far from being the case. An engineer may manufacture but few machines or other products, and yet may be—and, if he is to be really successful, should be—a man of extensive general knowledge and of wide experience in the practice of his profession.

"But he must concentrate this knowledge and this experience, and bring them all to bear on the work he has in hand, so as to produce that work at the lowest possible cost, and—what is even more important—of the highest possible quality.

"Experience shows clearly that mere lowness of price is not in itself an inducement to purchasers; and the maker of an engine of exceptional economy, or of a machine tool or part which excels its competitors in the quantity or quality of the work it turns out, will never find difficulty in obtaining proportionately good prices for his productions."

Barker Adds Bicycles Again.

C. B. Barker & Co., the New York jobbers who relinquished complete bicycles about a year ago, have taken them on again. They will handle the Crawford in the metropolitan, Long Island and Northern New Jersey districts, and will have also a bicycle of their own which will be jobbed at their pleasure.

If
You Are
Interested
in
Automobiles



WILL SURELY
INTEREST YOU.

It is published for the information
of the average mortal; no dic-
tionary of mechanical
terms is needed to
understand it.

PUBLISHED EVERY THURSDAY
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NEW YORK CITY.

\$2.00 PER YEAR.
10 CENTS PER COPY.

SAMPLE COPY ON APPLICATION.

ANNOUNCEMENT

WOLFF-AMERICAN

AND

REGAL

Bicycles for the season of 1902 are
now ready. These well-known
lines of wheels are replete with new
and meritorious features.

Our salesmen are on the road
showing new models and offering
a proposition that is right.

It will afford us pleasure to hear
from dealers who are interested.

STEARNS BICYCLE AGENCY,

General Distributors,

SYRACUSE, N. Y.

MAKING MOTOR BICYCLES

The Structural Features That Require Attention and Alteration Pointed out.

The large number of firms who are producing motor bicycles at the present time shows that a considerable demand for this type of machine is anticipated. With so many makes in the field, and competition so keen, in the near future we may confidently look for a motor propelled bicycle which will have a greater efficiency than any that have yet been made, and will at the same time be neater in design and finish, observes the Irish Cyclist.

While the motor bicycle is being used today by a large number of riders with a great amount of success, it must be admitted that the machine is more or less in a chrysalis stage, and that it is going through the process of evolution, as everything mechanical has to. In our opinion the bicycle itself should be specially designed for the work it has to do. At present the usual idea is to make an ordinary set of roadster fittings and to build up a frame with heavier tubes and reinforcements, and to widen the back forks and stays, if necessary. This done, the machine is called a "specially built motor bicycle." So it is; but what is wanted is a specially designed, as well as built, motor frame.

When we say design we do not propose to advocate any radical departure from the lines of the present bicycle, but rather to make alterations which will make the machine still more suitable for the class of work which it will be called upon to perform.

In the first place, we should make some slight alterations to the bottom bracket, increasing the tread slightly, but not to the extent of putting the rider in an uncomfortable and ugly position. The back forks and stays would be strengthened and stayed without adding much weight. The back wheel, being the driving wheel, should receive special attention, particularly the hub, which at present is not strong enough in the bearings to stand the wear of an intermittent mechanical power. The front forks would also receive special attention, for as they get the first shock from an opposing obstacle great strain is thrown on the fork crown and the base of the steering column. Some form of spring fork or anti-vibrator would be adapted, if possible. These are just the outlines of the ideas we would work upon.

As to the position of the motor, we have found that as near an equal distribution of the weight as is possible gives the best general results. As regards this point, it is extremely interesting to note the various designs as they are brought before the public. The motor has been put into every conceivable position, from the front of the head to a bracket extended in rear of the back wheel. While the best position for the motor to occupy has been the subject of much discussion and experiment, the equally important

items of lubrication, sparking apparatus, etc., seem to have been almost overlooked by makers on this side of the "herring pond."

The Americans have paid more attention to these details, though they have missed others, and on two or three designs a system of automatic lubrication is to be seen. The subject of the transmission of power from motor to driving wheel is an interesting one.

Driving and Driven Wheel Tires.

The suggestion has been made that to get the best results from tires they should be constructed with special reference to whether they were to go on the driving or the driven wheel. It is said that one rider had tires specially constructed, one to go on the front and one on the rear wheel. That for the front wheel had the threads at a much shorter angle than those of the back wheel. The result was that he had a much more resilient tire on the front wheel than on the back. The ideal tire for resiliency alone is said to be one with the threads perfectly transverse.

Here's the "Coasting King."

Two or three of the coaster-brake makers in England are having a deal of fun and rivalry between themselves by sending men for the "coasting record"—not downhill, as may be imagined, but on a circular race-track. The "record" appears to change owners each week. At last accounts it stood to the credit of one J. E. Bywater, who coasted the almost incredible distance of one mile, 969 yards. Accordingly he has been crowned the "Free Wheel King." The only possible inference is that the men are unusually skillful and the track bankings unusually high.

France's Cycling Population.

According to the tax returns for 1900, just published, there was no diminution in the use of bicycles in France during that year. The returns disclose a total of 987,130 bicycles, from which the government realized \$1,094,995. The records of previous years follow: 1894, 203,026; 1895, 256,084; 1896, 329,816; 1897, 408,869; 1898, 483,414; 1899, 838,856; 1900, 987,130.

Good Chains Made Better.

The Indiana Chain Co., Indianapolis, have still further improved their chains. For 1902 they will be made not only with swaged centre blocks, but with milled rivets, that will add to their non-stretchability. Unlike the turned rivet, the milled article, the Indiana people say, cannot vary in size at the shoulder and can never turn in the side-plates.

Claw Cranks are old.

It is claimed that the use of the "claw crank," i. e., a crank with the inner portion or "spider" of the sprocket wheel forming an integral part of it, goes back as far as 1884. In that year it was used on the "Kangaroo," a front driving safety popular about that time. It came into use on rear driving safeties about half a dozen years later.

They all tell you that

The One Big Reason Why Women

ceased to ride was because of the undue weight of the bicycles built for them. And there is a lot of truth in the contention. It has always been our belief that

What the People Want IS

Light Bicycles at Popular Prices.

We manufacture accordingly.

OUR Indian Bicycles

all scale less than 25 pounds and list at \$25, \$30 and \$35.

If you want a line of sellers the Indian agency will provide them.

Is there an Indian agent in your town?

Our Motor Bicycle, too

is almost ready for marketing. It's a dandy. If you take on any other before seeing it you'll be apt to regret it before the year 1902 is very far advanced.

HENDEE MFG. CO., Springfield, Mass.

RACING

Influenced, doubtless, by the protests of several automobilists who were defeated by a motor tricycle, the Automobile Club of America have ruled that motor bicycles and tricycles cannot compete with the big vehicles. It is now in order for the National Cyclists' Association to formally announce its authority over motorcycles of all forms. The announcement is logical and will greatly simplify matters. It has been already too long delayed. As the Bicycling World has long contended, the use of a motor does not change the essential character of a cycle any more than did the substitution of pneumatic tires for solids.

The Criterium of motor bicycles, organized by the Auto-Velo, which occurred at the Parc des Princes, Paris, attracted a crowd of several thousand. There was only one race in which all the competitors started together, but there were two classes—first, motor bicycles on which pedalling was allowed, and, second, motor bicycles from which the pedals had been removed. There were thirty-two competitors, and the winners were the following: Without pedals, Cissac, on a Chapelle bicycle, who accomplished the 100 kilometres in 1 hour 34 min-

utes 25 1-5 seconds, making a world's record; with pedals, Derny, on a Lamaudiere & Labre bicycle, in 2 hours 4 minutes 29 2-5 seconds. There was a third prize given for motorcycles weighing less than thirty kilos., and it was gained by Deguichard on a Clement bicycle in 2 hours 44 minutes 17 4-5 seconds.

Although four were entered, but one motor bicycle competed in the Long Island Automobile Club's one mile "symposium" on the Coney Island Boulevard on Saturday last, darkness putting an end to the affair before all the entrants could make their trials. R. J. Atkinson, on a 4 h. p. Orient, the one who made the effort, completed the straightaway mile in 1m. 35s. Henri Fournier, in a 40 h. p. Mors carriage, it will be recalled, upset all previous records of all sorts (railway speed only excepted) by doing the mile in 51 4-5s.

The first regular cycle meet of the winter indoor season will take place in Madison Square Garden, December 7. The skimming-dish track, which was the subject of so much comment during the summer, will be replaced by a new one which will have all the speed of the old one, and at the same time be built on lines that will make it safer. The main event on the opening night will be a 25-mile professional lap race. Kennedy and Powers will, as before, be in charge.

At the Parc des Princes track, Paris, October 31, Floyd McFarland surprised his com-

patriots by defeating Jacquelin, the French crack, in a 20-mile paced match race, and by doing it with ridiculous ease. Jacquelin was no match for McFarland, who, when half the distance had been covered, was two laps ahead, and ultimately won as he liked by three laps in 29:22 1-5.

In a 50-kiloms. race Michael gave Robl, the German, a decisive trouncing at the Parc des Princes track, November 3. Michael, who won easily, led all the way, making new records from 20 kiloms. He established a new record for 50 kiloms., 43m. 12 3-5s., this being 2m. 33 1-5s. better than the previous best.

The hour record is now a possession of Germany. On October 31 Dickentmann went for it, and succeeded in lowering the distance by 109 metres 118 yards. The total distance covered by Dickentmann in the hour was 40 3/4 miles. Record was cut from 35 kiloms. upward. The times were as follows: 35 kiloms., 31m. 53s.; 45 kiloms., 41m. 45s.; 55 kiloms., 50m. 29 2-5s.; 65 kiloms., 59m. 27 2-5s.

Walthour won the six-day one-hour-a-day race at Memphis, Tenn., Nov. 11-16, with a total score of 137 miles 10 laps. Bowler was only a foot in the rear, with Leander 20 yards back, with a flat tire. Hunter, who had ridden all the week while suffering from malarial fever, gave up in the eleventh mile.

WE MAKE Bicycle Fittings

and lots of other articles from Cold Rolled Steel and they have proven perfectly satisfactory to the trade for the past seven years.

Our Cups and Patented Cones

are the best in the world. :: ::

Estimates from drawings or blue prints furnished. Send for illustrated catalog. If you don't see what you want write us. :: ::

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SEYMOUR, CONN., U. S. A.

If you ride or sell,
or intend to ride or sell
motor bicycles,

"Motocycles and How to Manage Them"

is the very book you need.

Every page teaches a lesson. Every illustration
"speaks a piece."

And there are 126 pages and 41 pictures, too!

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The Goodman Co., 124 Tribune Bldg., New York.

BLOCK VS. ROLLER

The two Types of Chain Again Discussed
—Where the Roller Scores.

There is scarcely any end to the number of features in which cycle practice here and across the water differs. The methods of construction in the two countries grow wider apart as the years go by, and there appears to be little likelihood of a contrary movement setting in.

On American machines scarcely anything but the block chain is used. It gives almost complete satisfaction, and there is little or no thought of change. Across the water it is just the other way; the roller chain has become more and more popular, and the time is not far distant when the block type will be driven out. In fact, this time is almost within sight now.

Commenting on the action of one chain maker in dropping block chains entirely, confining itself to the manufacture of the roller type, the Cycle Trader says:

"They must have something very good to warrant such an important move. Experts in chain driving have long since been agreed that the block chain was wrong in principle for transmitting power wherever any dirt was present. It was thought by many, when the roller chain was introduced, that the roller was a fad, a superfluous element, but on closer examination it is seen that the roller is the very life and soul of chain driving.

"It is now pretty well known that chain wheels are made greater in pitch than the chain when new; therefore, to get the chain around the chain wheel the tooth spaces have to be cut wider than would otherwise be necessary for the rollers. In use, therefore, the roller comes in at one side of the tooth space, and when it is turned a little more than half a revolution it finds itself on the other side of the tooth space, so that a creep has taken place right across the tooth space under the working pressure.

"Now, dirt and grit are being dusted or splashed on to the chain ad lib., and the power outer surface of the roller and the tooth have this grit, which causes them to bind, and the roller actually rolls across the said gap, the friction taking place between the roller and the sleeve, where the area of contact is greater, and therefore the pressure per unit area is reduced.

"In the case of the block chain this same action had to take place, but the block had to creep across the space and also move in going in and coming out of the tooth, and the frictional surfaces in contact were the actual block itself and the tooth. That this was so is exemplified in the enormous number of block chains that used to get 'nibbled,' the nibbling invariably taking place in a much more pronounced degree if the hub sprocket was the least atom too large in diameter.

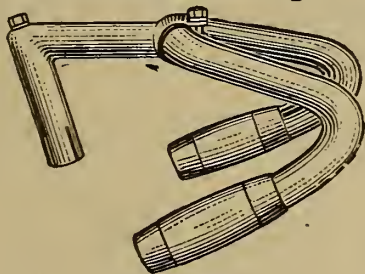
"All this trouble is completely removed in roller chains. The old trouble with roller chains stretching has now become a thing of the past in the higher specialization of the production of these chains. The old stretching complaint comes from several causes. One of the worst was that the chain got loose where it was intended to be a driving tight fit, the other came from imperfect hardening."

Two Shows Contrasted.

The present Stanley Show, which opens tomorrow at the Agricultural Hall, London, will be the twenty-fifth show which the famous Stanley Bicycle Club has carried through. The club, which was formed in 1876, gave its first show in 1878, some seventy-six machines being exhibited. From this modest beginning the shows grew in numbers and importance, until in 1896 no less than 2,028 machines were shown.

The National Show, which also opens tomorrow, is a much younger function. Its existence dates only from 1893, when an association embracing the bulk of the trade branched out and ran a show at the Crystal Palace in opposition to the time honored Stanley. In that year 1,327 machines were shown, and high water mark was reached in 1896, when the number was 2,306.

The Standard High-Grade Bar of America



IS THE
**IDEAL
Handle Bar.**

Why use the low grade of bars when you can get the best for a few cents extra. Our bars are better than ever. Out of the two large manufacturers who used 15,000 bars last season we were called on to replace only two tops and no stems, and these were broken through accidents. The best firms use our bars, such as the Waltham Mfg. Co., Iver Johnson Arms & Cycle Works, J. Stevens Arms & Tool Co., Warwick Cycle Co. and also several branches of the American Bicycle Co. Our customers of the past who are still in business are still with us. You will make no mistakes by cataloging our goods. Get prices for the coming season. Electros for the asking.

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IT'S ALL
PERSONS, NOW

The trade pendulum has swung and it has carried the Persons to the tip-top notch.



The Persons saddle will distinguish the high grade bicycles of 1902.

It is a guarantee that the bicycle makers are not building on the penny-pinching basis. It is a guarantee that they are honestly trying to make their bicycles what they claim them to be—a guarantee that the claim "we use the best that money can buy" is not an empty one.

Nothing will be so rare as the bicycle manufacturer who will not use the Persons saddle unless it is the lonesome jobber who does not carry it in stock.

When you pay for a high grade bicycle you are entitled to a high grade saddle. Get it. Specify the Persons when you order.

It's Persons, Persons, Persons everywhere. It is carrying the trade with it. Why try to swim against the tide.

PERSONS MFG. CO.,

CHAS. A. PERSONS, Pres't.

WORCESTER, MASS.

The Retail Record.

Plainville, Conn.—E. G. Bassett, closed.

Plainville, Conn.—George White, Whiting street, closed.

Great Neck, L. I.—George Bullen succeeds John Brown, jr.

Brockton, Mass.—Pickard Bros. will erect a four story building.

Toronto, Ont.—Thomas Fane, 367 Yonge street, forty bicycles burned; insured.

Great Barrington, Mass.—Frank Minkler has purchased the business of C. E. Cross.

Portsmouth, Va.—Northrop & Baker, 701 High street, have assigned and goods will be sold for benefit of creditors.

Santa Rosa, Cal.—Harry Hulbert has purchased the interest of L. B. Bement in the Cash Cyclery and will continue the business.

To Make O'Meara's Tire.

Under South Dakota laws, with headquarters at Armour, that State, a company has been organized to undertake the manufacture and sale of a tire invented by Denis H. O'Meara, of Worcester, Mass. The tire is called the "Yielding All-Metal Tire," and is described as having "steel springs between the outer and inner rim, while the outer rim is of aluminum, which can be renewed at small cost, and the remainder of the device so durable that it will last as long as the framework. The springs are protected by rubber cloth covering. Other advantages claimed are that the wheel keeps the ground better and recovers more quickly from rebound."

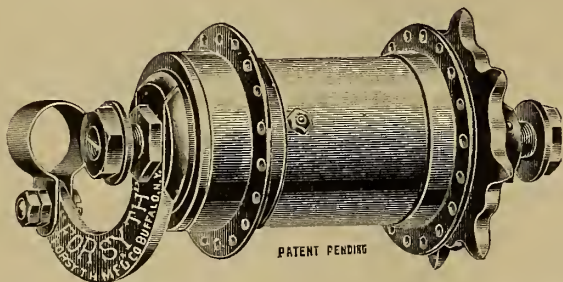
It Ended Grip Troubles.

There is nothing more remarkable than the way the little troubles which formerly annoyed the cyclist pass away and are forgotten. Take the matter of handlebar grips, for example. For several years after cork and composition grips came into use they gave cause for dissatisfaction. No amount of care availed to make them stick. They were continually coming loose, the tips were dropping off, and the replacement of broken grips was an everyday matter. Then some one hit on the plan of inserting a piece of wood or other substance in the end of the bar and fastening, usually by screwing, the grip tip fast to it. No sooner was this thought of than, presto, change; the trick was done and the trouble was almost eliminated.

Improvement is still the order
of the age.

THE FORSYTH IS A COASTER BRAKE OF TO-DAY

not of yesterday.



It embodies more real improvements than any other on the market—not merely alterations, mind you, but genuine improvements.

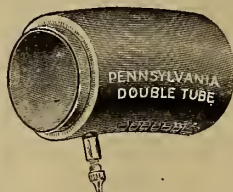
YOU SHOULD NOT PERMIT YOURSELF TO REMAIN
IN IGNORANCE OF THEM.

It will afford us pleasure to post you,

FORSYTH MFG. CO.,

BUFFALO, N. Y.

Jobbers be Wise!

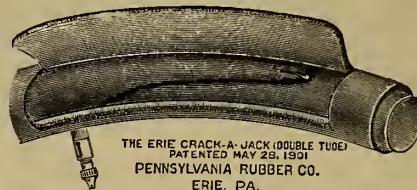


Handle these
Goods and

MAKE MONEY.

STAY WITH THE GOLD MEDAL WINNERS.

Write for
our
1902
Price
List.



Don't close
until you
consider
our entire
line.

**PENNSYLVANIA
Rubber Company,**
ERIE, PA.

BRANCHES:

NEW YORK
BUFFALO

CHICAGO
PHILADELPHIA

BOSTON



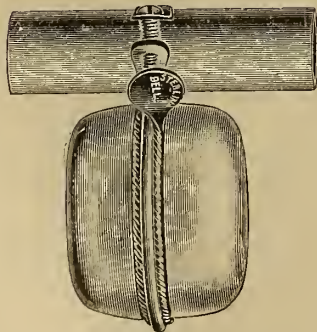
Sterling Continuous Ringing Chime.

NON=WINDING.

NON==REVOLVING

Don't Make a Mistake.

Buy This Chime and
Only This.



(PATENT APPLIED FOR.)

N. N. HILL BRASS CO.

(Sole Manufacturers)

EAST HAMPTON, CONN.

SALESROOMS: 84-86 Chambers St., NEW YORK.
45 Pearl St., BOSTON.

ALUMINUM JOINTS

How They are Made and the Advantages Claimed for Them.

Much of the weight of a frame or front forks is in the joints. This is particularly true of drop forgings, even when they are machined and filed down to a knife edge. And yet in spite of this the joint is usually considered the weakest part of the frame. Certainly there are more breakages of the joints than of the tubing.

In this connection another attempt to make use of aluminum in the construction of cycle frames is noteworthy. An English concern has undertaken the manufacture of cast aluminum joints, these being claimed to be lighter as well as stronger than the ordinary steel forgings or stampings used for that purpose.

The process appears to be very similar to the one described in the *Bicycling World* a few months ago and emanating from Syracuse, N. Y.

It consists of casting around the steel tubes aluminum alloy lugs, which, on cooling, contract tightly on to the tube. In order to give the necessary strength, and to insure that the tubes shall not turn in the lugs, the casting is made with crossbars, which pass right through the lugs, and, of course, cast in one piece with the outside lug.

The process of making these joints, which was fully demonstrated at the works, is as follows: The tubes are mitred to fit around each other properly, and in the case of the bottom bracket their ends are rounded out to conform with the inside wall of the bracket shell. They have then holes drilled or punched through them to allow of the metal running through to form the crossbars. A sand or clay core of special material is now formed inside the tube, a wad of paper being first inserted in the tube at a point just beyond where the end of the lug will come. The core is now pierced through from the holes in the tube, thus forming the mould for the crossbars.

The tube with the core inside it is now dried in a core oven, and a feature of the process is that the core does not dry too small for the tube, but fits exactly when dry as when wet. The tubes being thus prepared, a mould of sand is made in an ordinary flask, a brass pattern of the bracket shell with extending prints representing the tubes being used, and the extending prints being securely held in jig clamps specially arranged to hold the print at the correct angle. The bottom flask is filled and rammed tight, a parting face made and sprinkled with parting sand in the usual way.

The top box is now put on and rammed, taken off, and ingates and air gates made in the usual way. The brass pattern is now removed from the mould, and a sand core representing the inside chamber of the bracket laid in its place. The tubes with their dried cores are now placed through the

holes in the mould until their ends touch the core in the mould; they are then clamped firmly in position by the jig clamps which previously held the long prints of the pattern. The top box is now placed in position and wedged up, and the aluminum alloy poured in.

After the casting has cooled it is removed from the mould, and the ingates, air gates and headers removed by means of a band saw. It now remains to remove the cores in the tubes.

First of all, the paper wad is removed with a sharp steel hook; next, a tube is inserted, through which air under heavy pressure is forced. The end of the tube is knocked up against the cores, and the air blast blows the now crumbled core out at the end of the tube. A very small electric incandescent lamp is now inserted at the end of a tube, and the operator can plainly see whether or not all the core has been removed. In dealing with a lug such as a seat lug or a head lug the crossbars are replaced by an internal liner of alloy cast together with the outside lug and connected with it by holes through the tube. In casting the head and seat lugs plate patterns are used—that is to say, half of the pattern appears on each side of a metal plate which fits on the top of the bottom flask. This conduces to rapid moulding.

Changes in Crank Shaft.

There was a time when the crank shaft of a bicycle was one of the most important of all the cycle's many parts. In the days of the high wheel not only the cranks but the front wheel hub flanges as well were fastened to it, and if anything went wrong with it pretty nearly half the bicycle was put hors de combat.

When the safety came in there was but little diminution in the important position in the bicycle's economy held by the crank shaft. As before, the cranks were firmly attached to it, and the sprocket wheel as well. As a matter of fact, the latter bore considerable resemblance to the flanges on the high wheel, and it had to be just as firmly secured.

Modern cycle construction has greatly changed this, however. Such a thing as a mere shaft is almost unknown. Whether the one, two or three piece construction be adopted, this holds true. In the first two cases the shaft is but a part of the crank, and usually the sprocket wheel is attached to it. Even if a three piece construction is used, the crank and part of the sprocket are in one piece, and in this shape are fastened to the shaft itself.

In his book, "The American Invaders," which has created something of a stir on the other side, Fred A. McKenzie maintains that the cycle and wool trades are the only trades in which America has failed to beat Britain. Mr. McKenzie does not appear to have studied American export statistics as carefully as he should have done.

RUBBER SUBSTITUTE

Gum Extracted From the Abornamortana Brassa the Foundation of it.

One more rubber substitute has made its appearance—this one in France. It is a mixture of the fibre of ramie with the milky juice of a Chinese plant whose botanical name is *Abornamortana brassa*. This gum is known commercially in England as Pontianak gum. The synthesis of rubber is undertaken by the assimilation of gums and fibres of the same family which, under certain conditions, seem to have a natural affinity for one another and give an elastic material having the properties of rubber.

The ramie fibre is, preferably, first dried, and the oily and volatile matters which it contains are removed. The gummy juice is then mixed with the fibre and the mixture crushed between cylinders heated to a temperature of 50 degrees centigrade. It is passed back and forth between these until the two constituents are completely incorporated in one another. The mass is then placed in an oven, the temperature of which is 150 degrees centigrade, and this temperature is raised gradually to a point between 175 and 205 degrees. After about four hours this process is completed. When the mass is cooled it is seen that, although the fibrous structure remains, its textile resistance is completely destroyed. The mixture is then worked at a temperature of 50 degrees in a mixing mill until the fibrous structure is entirely destroyed and the mass is uniform.

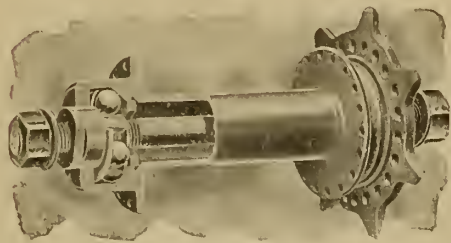
During this last treatment substances giving off oxygen, such as borate of manganese or permanganate of potassium, are introduced, to the proportion of from 5 to 8 per cent, and, if desired, a softening material such as balata gum up to about 10 per cent; sulphur may also be added. This process being completed, the mass is allowed to cool for about forty hours, to permit thorough assimilation, and the mass is then cooked by steam under a pressure of 50 pounds to the square inch for about three hours. When the product is cool it is stated to have all the qualities of india rubber.

The following formulæ give various grades of product: Gum, 80 per cent; fibre, 15 per cent; sulphur, 5 per cent. This gives a good marketable quality of flexible rubber. A better quality of the same product is made from the mixture of gum, 72 per cent; fibre, 10 per cent; balata, 10 per cent; sulphur, 8 per cent. A flexible material, excellent for the manufacture of hard rubber objects, is made of gum, 75 per cent; fibre, 20 per cent; sulphur, 5 per cent. In the first formula given the sulphur may be replaced by permanganate.

"The Motor: What It Is and How It Works." See "Motocycles and How to Manage Them." \$1. The Goodman Co., Box 649, New York. ***

CHAMPION HUBS

Write for Complete Description and Prices.



LIGHT WEIGHT RACING MODEL.)

ALSO REGULAR ROAD HUBS.

Worthy of Their Name.

VULCAN HUBS.

Cheap but Good and Well Worth Their Price.

I. A. WESTON CO., Syracuse, N. Y.
Selling Agents, C. J. IVEN & CO., Rochester, N. Y.

HIGH GRADE

wheels must have the
best equipments.

There is nothing that gives more value for
the money than the use of the

MORSE TWIN ROLLER CHAIN



NOISELESS IN MUD, WATER OR
DUST AND ALWAYS EASY RUNNING.

The only chain having Frictionless
Rocker Joints. Insist on having the
Morse Twin Roller. Fits regular
sprockets.

Send for Catalogue and
Trade Price to

Morse Chain Co., Trumansburg, N. Y.

WANTS AND FOR SALE.

15 cents per line of seven words, cash with order.

WANTED—Everyone interested in motor bicycles to purchase "Motocycles and How to Manage Them." Contains 126 pages bristling with information. \$1.00 per copy. For sale by The Goodman Co., 154 Nassau St., New York City.

The Week's Patents.

686,255. Tire for Bicycles. Ben Broughton, Hamilton, Canada. Filed April 26, 1901. Serial No. 57,627. (No model.)

Claim.—1. A tire consisting of a cork core, two opposite surfaces of the cork treated by pressure rollers and compressed at right angles to the grain of the cork, and previous to the shaping of the cork into a ring, and a rubber envelope or cover vulcanized thereto, substantially as and for the purpose set forth.

686,284. Motorcycle. Edmond F. Gottschalk (by judicial change of name now Edmond Francis Stratton), New York, N. Y. Filed Feb. 18, 1901. Serial No. 47,726. (No model.)

Claim.—1. The combination with a gasoline or similar motor having a closed casing forming the base of the motor, of supporting devices therefor constructed to secure the motor in operative position upon a diamond frame bicycle of ordinary construction, said supporting devices comprising one or more clamp brackets made integral with the base of the motor and adapted to engage the lower forward brace of the bicycle frame, and an adjustable bracket or stay secured to the top of the motor and adapted to engage the top brace of the bicycle frame, substantially as described.

686,319. Self-Inflating Tire for Bicycles. Charles G. Morgan, London, England. Filed Aug. 20, 1900. Serial No. 27,450. (No model.)

Claim.—1. A self-inflating tire, comprising an air tube, a pumping tube surrounding the rim of the wheel, means for admitting air to said pumping tube and forcing such air to the air tube, and a band composed of contractible and expansible elements and arranged between the said pumping and air tubes, substantially as set forth.

"Defects (in motorcycles) and How to Remedy Them." See "Motocycles and How to Manage Them." \$1. The Goodman Co., Box 649, New York.

HAND AND FOOT PUMPS,

Oilers, Repair Tools,
Valves, Name-plates, etc.

Spelter Solder

Sheet Brass,
Brass Wire and Rods.

SPECIALTIES to order
MADE OF BRASS.

SCOVILL MFG. CO.

Factories: Waterbury, Conn.
Depots: 210 Lake St., Chicago.
423 Broome St., New York

OILERS.

"PERFECT"



25c.

"GEM"



"LEADER"



10c.

"STAR"



We make oilers for almost the entire trade. The quality of our oilers is unequalled.

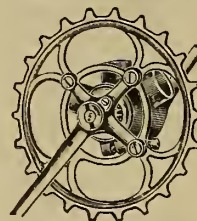
CUSHMAN & DENISON Mfrs. 240-2 W. 23d St. N. Y.



HAS A POINT ONLY 1/16 IN. DIAMETER.

THE MAGIC is as good as ever. But prices are different. Get our new quotations for 1902 and you will be right in it. You will find it well worth the trouble.

THE MAGIC REPAIR TUBE CO., 250 LARRABEE ST., CHICAGO, ILL.



"D. & J." HANGERS

FOR
Single,
Tandem,
Triplet,
Quad and
Motor Cycles.

Lightest, Nearest Dust Proof, and
Easiest Running Hanger in the World.
Park City Mfg. Co., inc., Chicago



STEEL BALLS

The Best in
the World.

EXCELSIOR MACHINE CO., BUFFALO, N. Y.

If You Desire
Complete Motor Bicycles

You cannot get a better one than

THE MARSH.

If You Desire
to Build Your Own Motor Bicycle

We can supply everything which you require
for the purpose. Write us.

The Motor Cycle Mfg. Co., Brockton, Mass.

The Bicycling World

AND MOTOCYCLE REVIEW.

In which is incorporated "The Wheel and Cycling Trade Review" and the "American Cyclist."

Volume XLIV.

New York, U. S. A., Thursday, November 28, 1901.

No. 9

WILMOT & HOBBS SELL

Bridgeport Plant Taken Over by new Company—Wilmot Remains President.

Without so much as an inkling of it having leaked out, the well known Wilmot & Hobbs Mfg. Co., Bridgeport, Conn., has undergone a transformation, and is now the American Tube and Stamping Co., capitalized at \$2,800,000.

The new company received its charter from the Legislature of Connecticut in 1899. Its directors are Frank A. Wilmot, Albert N. Stanton, Clarence D. S. Miller and George L. Prentiss, all of the old company; Edwin G. Sanford, president of the City National Bank of Bridgeport; Edwin Langdon, president of the Central National Bank of New York, and Henry W. Nutt, late assistant general sales agent of the American Steel Hoop Company.

The presence of Mr. Nutt in the concern is taken as an indication that the American Tube and Stamping Co. may soon be made a part of the United States Steel Corporation. The Steel Hoop Co. is a factor of that corporation, and Mr. Nutt's recently conspicuous standing with the Steel Hoop Co. savors of his close connection with the Steel Corporation.

Mr. Wilmot, who is president and treasurer of the new company, said, however, that it has no connection with the steel trust, but that some of the stockholders were also stockholders in the United States Steel Corporation and other companies.

Have no Cause for Complaint.

Of trade conditions as they are finding them the Wisconsin Wheel Works write:

"Our factory is running at least six weeks earlier than last year, and sample orders are averaging larger and are coming in very much earlier from the retail trade. We are extremely well satisfied with the outlook for the coming year, and anticipate that it will prove the most satisfactory year we have experienced in several seasons."

Hamming on his own Account.

P. H. Hamming, treasurer of the Grand Rapids (Mich.) Bicycle Grip Co., has resigned that office and disposed of his holdings in the company. Concurrently he has established himself in the same line of manufacture at 116 Prescott street, Grand Rapids.

What Nott Offers.

The affairs of the Co-operative Cycle and Motor Co., of St. Catherine's, Ont., engrossed the attention of the Council of that town last week. The City Solicitor submitted a letter from the liquidator of the concern stating that authority had been obtained from the court to allow the city to retain the security held by them at the value specified in the claim as filed. The Solicitor advised that the Council make provision to take care of the property.

W. G. Nott wrote, offering to rent the factory and plant of the company, agreeing to pay \$400 per year rental, providing he can have the option for one year to purchase the same for \$10,000, payable as follows: \$500 and interest at 4 per cent per annum each year for the first ten years, and \$1,000 and interest at the same rate for the next five years, the city to hold first mortgage as security until the whole amount is paid; also that he or any company he may form have the usual exemption from taxation.

Fisher Defines the Difference.

C. G. Fisher, the Indianapolis dealer, has been telling one of the Indianapolis dailies some of his experiences; of the number, a comparison of the automobile business with the bicycle business is of particular value just at this time.

"I started in the bicycle business several years ago with \$20," he said, "but it is easy as pie to tie up \$10,000 or \$15,000 in the automobile business. And it is so easy to drop \$1,000 or so. If you buy a machine that proves to be a dead one—I mean one that will not sell—you have lost \$1,000, for that is just about what they cost, and you can't sell a dead one."

The conditions are not overstated. The Bicycling World man heard a New England merchant affirm that he had laid out twice the amounts named by Fisher and had yet to receive a profit on his investment.

Garden Gets Philadelphia Branch.

That rare old bird, R. D. Garden, has been named to succeed C. C. Hildebrandt as manager of the American Bicycle Co.'s Philadelphia branch. Hildebrandt comes to New York to assume charge of the A. B. Co.'s Fifth avenue automobile depot, Herbert A. Githens, its former manager, being transferred to the factory at Toledo.

JUST WHAT GATES GAVE

Agreement By Which Keating Bondholders Exchange one Paper for Another.

As things now stand, the holders of the Keating Wheel and Automobile Co.'s bonds of \$440 face value will receive, as a result of the sale of the Middletown plant to "Isaac E. Gates and associates," another piece of paper representing a value of \$400.

The agreement with the Gates people as made public follows:

"We, the undersigned, holders of the bonds of the Keating Wheel Co., to the amount set opposite our names, hereby severally agree to exchange said bonds for new bonds of the Eisenhuth Horseless Vehicle Co., upon the following terms: A new bond to be accepted for each Keating bond provided and upon condition that said new bonds shall be issued to an amount not exceeding \$210,000, shall be secured by a first mortgage upon all real estate, buildings, machinery, fixtures, tools and implements now in possession of Frederick A. Betts, receiver of the property of the Keating Wheel and Automobile Co. in Connecticut, and, provided further, that the payment of interest upon each of said new bonds for five years from November 1, 1901, at the rate of 5 per cent per annum, payable semi-annually, shall be duly in writing, guaranteed by Mr. I. E. Gates, the basis of the exchange of bonds to be the best found practicable and equitable by the receiver and court."

Wyoma has not Withdrawn.

Despite rumors to the contrary, the Wyoma coaster-brake will continue on the market and in improved form. The statement comes directly from the Reading (Pa.) Automobile and Gear Co., and is therefore authoritative. As made for 1902, the Wyoma permits the rear wheel to run backward, is narrower in width, lighter in weight and simpler in construction.

Ashdown With a Million.

J. H. Ashdown, the well known hardware and cycle jobber of Winnipeg, Manitoba, is turning his business into a stock company, with capital of \$1,000,000; it will be incorporated as the J. H. Ashdown Hardware Co.

EX-MANAGER ADMITS IT

**Now sees the Folly of Ultra-Exclusiveness
—Makers not Guiltless, he Says.**

"In that editorial last week, 'One Way to Better Trade,' the Bicycling World put its finger on the real cause of the trade's slump and distress," said the man who formerly managed a branch store in Brooklyn. "Now that it has been pointed out I can see with painful distinctness that I contributed my full share to the unpleasant result.

"Like nearly every one else in the trade, I became too busy, or imagined I was too busy, to fool with bicycle clubs or take part in cycling affairs that required any time or attention outside the store. I grew away from nearly all the men I ever knew. I met only the people who came to see me. I absolutely took no interest in any one or anything that did not promise the direct return of a dollar. The dollar was always in my eye. I couldn't see beyond it, and the only satisfaction I now have is that nearly every one else in the trade was in the same box.

"But don't place all the blame on the dealer. The manufacturer is entitled to a full share of it. Before he began to make money hand over fist he was willing to spend a dollar to promote and advance the business. He seemed to appreciate that enthusiasm was a good thing for the business, and that the occasional gift of a bicycle or a lamp or a saddle as a prize for this, that or the other object was money well spent. But when the boom struck him and he began to revel in easy money he shut down hard on putting out a penny for any purpose. He ceased to be easily approachable and his excess of dignity had as much to do with chilling the trade's marrow as anything else.

"Enthusiasm? Pshaw! He ceased to know what the feeling was. Even when some of us began to feel the pinch of declining sales and realized that it was time to do something, nothing was done. Why, will you believe, a week or two ago I was asked what wheels Kramer, Taylor and Michael rode, and I couldn't answer the question; worse than this, I could not even recall the name of the amateur champion. I looked over the ads. in several stray copies of the Bicycling World that happened to be in the house, but not an ad. could I find that would give me the information.

"I did not think much of it at the time, but it shows how we all lost interest in everything but 'shop.' And yet I can recall the time when I knew what wheels were ridden by about every prominent man on the track or road. Yes, and there was a time when the manufacturers would shout such facts from the housetops and spread them in big black type in the bicycle papers, and their agents would paste them in their show windows. I've done it myself. Gosh! what fearful and wonderful changes came over us all.

It seems like a dream to picture the conditions of five or six years ago."

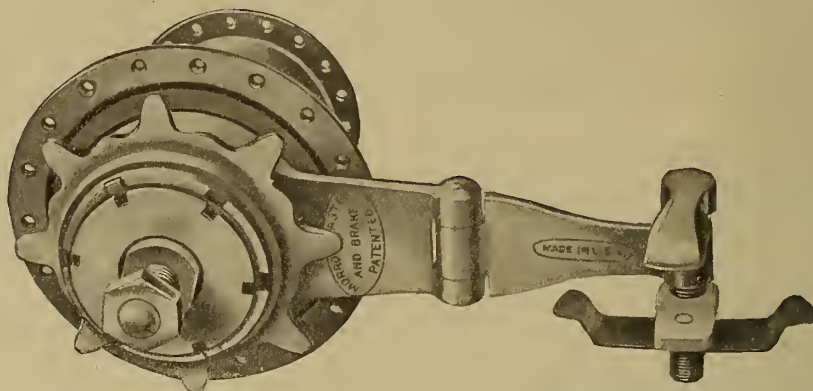
"And yet now you are trying to break into the unripe automobile business, and have worked yourself to a pitch of enthusiasm about anything and everything connected with automobiles, haven't you?" suggested the Bicycling World man, who was well informed concerning the ex-manager's doings.

"Yes, and doing something to sell automobiles that I never thought of doing when I was selling bicycles," he admitted with a doubtful smile.

The Morrow of To-day.

Extended use in all parts of the world having proven the 1901 model Morrow coaster brake to be satisfactory, the Eclipse Mfg. Co. have been content, generally speaking, to let well enough alone. For 1902 the principle and working parts remain as heretofore, the refinements being in minor details only.

The chief and most apparent change is in



the arm, as the accompanying illustration makes plain. As previously made, the arm was in one piece, which in many instances required that it be bent to conform to the bicycles to which the device was being applied. With the hinged arm, however, this extra labor is avoided, the hinge being adjustable to any and all shapes of chain stay.

Another improvement is the substitution of a new clip for attaching the end of the arm to the frame; this clip adjusts itself to any size of tubing. The coaster brake has also been rendered practically dustproof.

To Suit all Tastes.

That extremes meet is demonstrated by an English firm which brings out for 1902 two machines that differ radically. One is a spring frame, while the other is a sort of cross frame. The latter has an extra tube running from the lower head to the diagonal tube at a point about six inches above the crank hanger, and two more extra tubes are continued from this point to the chain stays, just in front of the tire.

Uniform Nuts and Bolts Next.

Standard screw threads being now almost a certainty, there is already a call for an extension of the movement in English trade circles. Standard bolts and nuts are the next things that are to be taken up and made uniform.

FAILURE TO FOLLOW UP

The Glaring Weakness of the Average Merchant—Orders Permitted to Escape.

Almost every advertiser in trade papers, magazines and various other media can point to perhaps thousands of inquiries received through this advertising, but comparatively few can show appreciable results in the way of orders received after the inquiry.

It is usually a case of neglected opportunities—the inquiries have not been followed up closely enough to determine whether they held out any prospect of getting business.

It has cost considerable money to get these inquiries; they represent invested capital, and of course a good deal of money in handsome dividends.

Every time some one writes "please send

me a catalogue," you have a practical demonstration of the interest aroused for your goods in the mind of somebody who ought to be your customer.

It has cost you money to arouse that interest; it would cost you only a few cents more to keep it alive, and thereby reap the benefit of what you have already spent.

And yet in the majority of cases these inquiries are treated as if they meant nothing more than a request for a catalogue.

A catalogue or other matter is sent, sometimes accompanied by a perfunctory letter to the effect that "your favor of so and so to hand, catalogue has been sent, trust to be favored with your valued orders," and so on.

And there the matter is dropped, perhaps to be taken up again, if ever, when new advertising matter is issued in a year or so.

If your salesmen went after business like that, you wouldn't expect them to get much, would you? writes Ben. Sherbow. Then, suppose you were to treat each inquiry as if there was a prospective customer in back of it, don't you think you would stand a much better chance of getting business out of it?

There is a gold mine for you in that list of inquiries which perhaps you think valueless now, because the inquirer did not send an order on receipt of your catalogue. There are orders on that list to be had for the asking.

LEECHMAN'S LECTURE.

His Topic, Motor Bicycles, Attracted Record-Breaking Attendance.

At the last session of that admirable institution, the Cycle Engineers' Institute—of which America might profitably have a counterpart—"Motor Bicycles" was the topic, G. Douglass Leechman, M. C. E. I., being the lecturer. The subject was of such interest that it served to attract a record-breaking attendance, nearly three hundred members being present.

After remarking its uses and economies, Mr. Leechman asserted that the motor bicycle cannot be regarded as a single entity, but as consisting of two separate and distinct parts—the bicycle and the motor. In nearly all cases it is a bicycle to which a motor has been supplied, and the people who bought and used motor bicycles were those who had already become expert in riding the ordinary safety bicycle. The motor can be placed in almost any position on the machine that the designer pleases—in the front, the middle or the rear—and the bicycle will go and keep upon its keel.

The two points to decide were (1) which wheel to drive and (2) where to place the motor so as to drive the bicycle easily and avoid sideslip. Some people supposed it was an advantage to have the centre of gravity low, but from a purely balancing point of view on a bicycle it is desirable to have the centre of gravity as high as possible in order to avoid sideslip.

There are two causes of sideslip. First, from riding over uneven, greasy surfaces; and in this case if the centre of gravity is low the rider will not have a chance to recover himself. The higher the centre of gravity the slower the oscillation and the more chance there is of correcting any disturbance. The second cause of sideslip was the endeavor to overcome centrifugal force when turning a corner. Take the case of a rider coming fast around a corner; the rider wants to go one way, but the machine would much rather go off at a tangent; but in this case the position of the centre of gravity makes no difference, and need not enter into the calculations. Another matter affecting the balance of the machine is the effect of the gyroscopic action of the flywheels of the motor. If the motor was in front to drive the front wheel and rotated the flywheel the same way that the machine was going, it would rather help the steering than otherwise; but if the motor was placed at the back of the machine and drove the back wheel the flywheel would have to be rotated the other way in order to help the steering, whereas when the motor is placed in the middle of the machine the tendency is for

it to assist one wheel and try to upset the other.

As regards the durability and successful working of the motor, as a rule it will be found that the higher it is from the ground the less likely it is to be influenced by mud, dust, etc. This is a small point, but a practical one. Another point in favor of keeping the motor high is that when it is placed low it does not allow of much clearance from the pedal cranks, and things have to be cut very fine to get a proper length of crank shaft, bearings and sufficiently large flywheels, etc. Thus it is not advisable to get any part of the motor within the line of the chain wheel. A good deal of attention has been paid in recent years to the width of tread, but this is not a point that should worry the designer of a motor bicycle. If the motor is a good one it will not need much pedalling, and so far as sitting still is concerned, it is quite as comfortable to sit with feet a little wider apart than is the case upon the pedal propelled safety. It is also necessary to get the motor in a position where it will secure a draught of cool air, but not so as to cook the rider.

Another point requiring careful consideration is the inclination of the cylinder. It is much better for the motor to be run vertical, and it is certainly much preferable for the valves to be in an upright position, since in that position they are much more reliable in their action. When the inclination is great it is possible that the motor will run all right for a time, but it cannot be expected to give continued satisfaction. There is certainly some scope for ingenuity in the arrangements of the various taps and levers, etc., and all electrical apparatus should be worked from the handle, since it is often very awkward for one to loose the grip of the handle in order to attend to taps arranged along the top rail or elsewhere. After some remarks upon the necessity of good brakes, Mr. Leechman spoke of the tendency in some quarters to substitute chain driving for belt, and when one remembers the high pitch to which the art of chainmaking has been brought it is easy to see that good results are possible. Upon an ordinary cycle the chain is good, but upon the driving gear of the motor there is no dependence upon muscular energy, so that if the belt is quieter it is preferable.

Reverting again to the question of sideslip, if a machine is to be kept up there must be a certain amount of friction between the tire and the road surface. It is possible to lose grip in several ways: (1) vibration, (2) when rotating the back wheel there is a tendency for the whole machine to turn over backward. Suppose a rider going at full speed over a greasy road pulls up by the back wheel; the motor will endeavor to propel the machine, and hence the wheel gives, and sideslip ensues. If the grip is lost in any way whatever it requires practically nothing to upset the machine.

As is well known, the motor sets up a certain amount of vibration. This can apparently be diminished by the adoption of a

longer wheel base, but it must be borne in mind that this course must be attended with stronger tubes; otherwise there is likely to be a feeling of insecurity when going down hill at a good speed. Another cure for vibration is the introduction of springs. There are several devices which are very comfortable upon an ordinary safety, but as a rule they are slow, heavy and expensive—points which stand in the way of success. Upon a motor bicycle, however, these are items which are not of so much concern, and hence it would be possible to introduce springs in the motor bicycle. The ordinary cycle saddle is found to be sadly wanting when fitted on a motorcycle. One feels that more support is needed, since there is a great difference between continual pedalling and sitting still.

Saves 220 Miles in 1000.

While the average man knows that the coaster brake saves a deal of pedaling in a day's ride or a week's ride, authenticated records of such savings are rare. The most extended record of the sort of which there is knowledge has but just seen the light—the record of Teddy Edwards on a Barwest coaster brake from New York to Buffalo and return, a matter of 996.6 miles. Of this distance Edwards coasted 210.4 miles, or about 22 per cent, say one mile in every four and one-half, or twenty-two miles in every one hundred. It would be valuable if more records of the sort were available; the record of a season's saving, for instance, would be particularly interesting.

England Still Gaining.

While the United States' increase in cycle exports lasted for but two months and monthly losses are again its portion, Great Britain continues to gain steadily. In October it shipped away cycles to the value of £54,353, as against £40,574 last year. Up to that date the figures for the year are £464,601, as against £446,946 during the same period in 1900.

Two More Turn the Corner.

After being obliged to report a trading loss for two consecutive years, the Centaur Cycle Co. has been benefited by the small sized boom that has set in this season in England to such an extent that it reports a profit of \$15,000 for 1901. The Raleigh Cycle Co., which only a couple of years ago was a bankrupt, also shows a profit of over \$40,000.

Coleman Cries Quits.

Horace P. Coleman, doing business as the Coleman Auto and Cycle Co., Providence, R. I., filed a voluntary petition in bankruptcy in the United States District Court last week. His liabilities are \$2,232.92 and his assets \$500.

The Office Boy's Duties.

Merchant (to new boy)—Has the book-keeper told you what to do in the afternoon?
Youth—Yes, sir; I am to wake him when I see you coming.—(Ex.)

NATIONAL BICYCLES

FOR 1902 are a proposition which no dealer who wants a first-class bicycle can afford to overlook. Our travelers are in the field with the best line

of bicycles we have ever put out. They will be profitable to the dealer and more than satisfactory to the rider. If you want that kind of a bicycle as your leader, please write us to-day. We don't make the "cheap kind."

"Good Bicycles Only"

IS OUR MOTTO.

NATIONAL
CYCLE MFG. CO.
BAY CITY MICH.

The Surest Way

To tell whether or not a certain make of tire is the best to handle or use, is to try it.

The next best way is to buy a good, reliable, standard make, like

FISK TIRES

These are the tried and true tires—tried and tested for nine years. Proved true and trusty wherever used.

Riders use them with satisfaction and economy. Dealers handle them with pleasure and profit.

FISK RUBBER COMPANY, = CHICOPEE FALLS, MASS.

BOSTON,
604 Atlantic Ave.

SPRINGFIELD,
40 Dwight St.,

NEW YORK,
83 Chambers St.

PHILADELPHIA,
916 Arch St.

SYRACUSE,
423 So. Clinton St.

BUFFALO,
28 W. Genesee St.

DETROIT,
252 Jefferson Ave.

CHICAGO,
54 State St.

SAN FRANCISCO,
114 Second St.

THE BICYCLING WORLD

FOUNDED 1877
and MOTORCYCLE REVIEW

In which is Incorporated
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Change of advertisements is not guaranteed unless copy therefor is in hand on SATURDAY preceding the date of publication.

Members of the trade are invited and are at all times welcome to make our office their headquarters while in New York; our facilities and information will be at their command.

To Facilitate Matters Our Patrons Should
Address us at P. O. Box 649.

NEW YORK, NOVEMBER 28, 1901.

To Better Business.

It is not self-laudation or exaggeration to state that the *Bicycling World's* editorial of last week, "One Way to Better Trade," fairly opened the trade's eyes to its lapses.

Previously few men in the business in viewing its discomfiting condition had attributed an iota of responsibility to themselves. But the *Bicycling World* brought the charge so squarely home that not a few have since acknowledged their individual culpability.

For the first time, perhaps, there is realization that in living within itself and in casting loose or permitting itself to drift away from all those organizations and movements that gave life and enthusiasm and advertising to cycling, the trade committed its most grievous mistake.

In some cases, at least, we know that the

realization has been followed by resolution that will take definite form before many weeks of the new year will have passed. As a result we believe that the year 1902 will witness the organization of several new clubs and the promotion of several undertakings that should at least contribute to a renewal of cycling interest.

While we addressed our remarks more particularly to the dealer, we did not mean that the manufacturer is free from blame, as Mr. Nuebling, in his communication printed in another column, seems to infer.

The trade as a whole is in fault.

When prosperity turned the head of the trade, the maker no less than the dealer drew within his shell and ceased to interest himself in anything that did not directly concern himself. He became "too busy to fool with clubs" or to even give a respectful ear to clubs anxious to enlist his co-operation in a cycling enterprise.

While the solicitation of prizes was badly overdone, there were instances to our knowledge when manufacturers would not even listen to a suggestion or request for a bicycle at half price; they more or less haughtily waved away any one whom they might suspect of harboring such intentions. Cycling was so well advertised and was in such high favor that this attitude was possibly but an exhibition of the human failing.

But "things are not what they used to be." In the light of to-day we can plainly see that the club affairs and movements were bicycle advertisements of a most valuable nature, a recurrence of which is devoutly to be hoped for. They represented the life and enthusiasm of cycling.

Mr. Nuebling is doubtless right in assuming that there are dealers who will gladly undertake the promotion and management of such affairs. But in the hands of a dealer an event of the sort becomes not an advertisement of cycling, but of the dealer concerned, and the object aimed at is at once defeated.

The dealer must get his club or organize a club to undertake the work; he must be content to be the man behind the scene or a member of the managing committee, as

was the case in the "good old days" when enthusiasm was high and the dealer was in the thick of club life and everything else. It is folly to think of proceeding on any other principle.

We repeat that if the dealer bestirs himself he will stir others—that if he interests himself in affairs of interest to the public, the public will interest itself in him or his wares. It was the case before prosperity dulled the trade's senses; we believe it will be the case now that prosperity has passed and it has become necessary for the same trade to whet its wits to a keen edge.

Either this must be done or the monotony will continue.

If the trade is content to remain in the rut and expect that bicycles will be sold as tacks and toothpicks are sold—i. e., only when called for—if it is content to remain impassive and cry "What's the use?" and to "take things as they come," there is no need for any man to raise a hand.

If the trade desires to be lifted out of the rut and to promote its interests it must remember that a lever is necessary for the lifting.

Every manufacturer, every dealer, every manager, every traveller, no matter where located, has the lever at his command.

It is the lever of enthusiasm—the lever of "Do something."

We have endeavored to show how best it may be applied.

It is for you to apply it.

The Washington Farce.

After much labor, the Mountain of Reciprocity — the Washington Convention — brought forth not even a mouse; a gold brick, perhaps, best defines what was produced.

For three days several hundreds of leading manufacturers talked and talked and talked, varying the talk by the introduction of resolutions which would have removed the barnacles of alleged protection from the good old ship of State. The resolutions were duly referred to a committee of "gold brickers" which duly smothered them, reporting instead a resolution advocating the establishment of a Federal Department of Commerce which "shall have power," etc., etc.

The "several hundreds of leading manu-

facturers" appear to have lain down like little lambs and permitted the gag to be forced down their throats. Of the many strong men not one seems to have had the courage of his convictions or the strength of voice to protest. They accepted the "gold brick" without question and departed full of dignity and prunes. The farce of protection will be continued that a few industrial hogs may continue the milking of the American public.

The way of the American bicycle, which stands as a "horrible example" of farcial and harmful protection, will be made no easier abroad and our beloved cousins in England and Germany will continue to use our equally beloved tariff as a foment of antagonism and discord and as evidence that our contention, "Fair exchange is no robbery," is the variest fudge.

Wanted—a Cyclometer.

Now that coaster-brakes have made the number of miles saved in the course of a day or a season a subject of interest, there would seem an opening for a new cyclometer, or for the resurrection or adaptation of one or more of the extinct pedal cyclometers.

As the use of the latter would carry with it the use of another instrument on the front wheel, the commercial instincts of a Post and the ingenuity of a Veeder should be aroused.

We believe that the wide and widening popularity of coaster-brakes would bring a handsome reward to the maker who aggressively pushed the sale of such an instrument.

There is an almost deplorable lack of information regarding such "savings," the means at hand being too cumbersome and awkward and entailing too much figuring to merit the attention of the average men.

The Desire for Standards.

There is no demand in this country for a closer approach to uniformity of cycle parts such as has just led to the adoption in England of a standard of screw threads.

The necessity for uniformity was greatest with such parts as saddle clips, pedal pins, chains, rims and tires, valves, etc. Years ago the matter was taken up as far as they were concerned and the needed reform brought about. To-day neither the rider nor the retailer is bothered to any great extent in these respects, the parts referred to being almost always interchangeable.

It is a little singular that the public, having obtained these concessions, did not call

for more. It would have been the most natural thing in the world, one would think, to insist that the beginning thus made should be carried to a logical conclusion. Bolts and nuts and axles with a definite standard as regards both size and threads, handle bars and seat posts of the same size, spokes and nipples of the same gauge and thread, these should have appealed to them with but little less force than did the parts first mentioned. But the fact is apparently otherwise.

There can be no doubt that such a system of standards would be of benefit to both trade and public.

The former would not have to make or carry so many different parts, while the latter would be able to get a broken or injured part quickly and without trouble at almost any dealer's or repairer's.

An all around economy would be effected in this manner, such as could not fail to commend itself to all parties concerned.

It may be said that something is being done in the desired direction, and that in time the object will be attained. Factory processes are in line with this tendency, and the influence of the parts people bears strongly in the same direction.

It is not impossible, therefore, that a set of standards will eventually be evolved and adopted.

But the progress is bound to be a slow one if left to take care of itself, while matters are in such shape that a little pulling together would go far toward bringing about the desired condition.

Friendship in Business.

It is often argued that friendship is out of place in business, and with much reason. Friendship is frequently unbusinesslike; many people think it their friends' duty to give them what others must pay for.

Whether merchandise, professional services, advice, or material help, this mistaken view of friendship is largely entertained, even among good people. A man goes into business to make his living, and it is no more right to ask him to give a discount on the score of friendship than to steal 50 cents out of his pocket, remarks Business. However, there is a long distance between that sort of thing (which is imposition, not friendship) and enmity. A man who treats all other men whose interests are entirely opposed to his own and whose loss will be his gain, as his enemies, may achieve temporary success.

But this plan will not work always. Union has more strength than antagonism; co-operation pays better than unfriendly competi-

tion; mutual effort for mutual welfare gives greater returns than strife and rivalry.

Then, further, men are bound together by the great credit system, the foundation of which is mutual respect and esteem. No man can fight the battle for commercial success single handed against the world; he must have friends, helpers, supporters, or he will fail.

Hard times, too, have to be reckoned with. Ninety-five per cent of men fail in business; and when a man has made only enemies, the failure is permanent and final. Mutual interest and helpfulness between employer and employe, between maker and dealer, between dealer and customer; these are the solid foundation stones of a business that wins success.

The success of printed matter mailed with a view of interesting new people in your business and yourself depends largely on your persistency. If you stop after the first or second trial you drop out of their memories. If you continue to hammer away at them in a courteous and businesslike way some day some of them will be yours. Failure to "follow up" is a fault of the average merchant and manufacturer. The success of mail order houses is founded on knowledge of the fact. Persistency is their chief virtue.

For the ten months ended with October Great Britain's cycle export trade shows an increase of \$88,275 over the corresponding period of 1900. For the nine months ended with September—the latest data at hand—the United States foreign trade shows a loss of \$532,328. And yet our exports to Great Britain itself are greater than last year. If the American trade is not ashamed of this evidence of culpable laxity and negligence, it ought to be.

Much of the printed matter sent out to secure orders from people who have answered advertisements is of such inferior quality that it loses effectiveness. Such matter should be made alluring and printed in the most attractive manner possible. Common old circulars such as have been in use for the last fifteen or twenty years are no longer good business pullers.

If the force of example counts for aught, there should be an increase of cycling interest in Greater New York. Mayor-elect Low is one of the most consistent bicyclists in the city. He rides almost daily, and did so even during the hurricane campaign that led to his election.

UNLIKE ALL OTHERS

Holden's Motor Bicycle, Frame and all, on new Lines—Its Chief Feature.

As a distinct departure from existing types the Holden motor bicycle, shown by the accompanying illustration, is entitled to a niche of its own. Although it has just made its appearance on the English market, it really is not of recent origin, having first made its appearance in 1898, before motorcycle interest had been whetted.

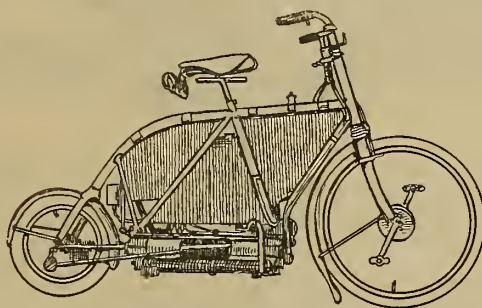
So far as the framework and outline are concerned, it will be noted that the machine is a development of the Bantam type of safety bicycle; but there is really much less resemblance between the types than would be imagined, says the Autocar. The front wheel is 24 inches in diameter, and is fitted with a 2-inch pneumatic tire, and the back wheel is 16 inches, fitted with 3½-inch tire. This latter tire is of special construction, and is the result of lengthy experiments, as it was found difficult to obtain a tire which would satisfactorily take the drive. The wheel base is 48¼ inches, nearly seven inches longer than the average pedal propelled bicycle, though, of course, owing to the small size of the rear wheel the length over all is no greater.

One great feature of the bicycle is its engine. This is of 3 brake horsepower, fitted with four horizontal cylinders and water jacket. The electric ignition system is without mechanical trembler, and with several other features of extreme simplicity. The valves of the four cylinders are easily removable, with their four seatings or casings complete, and the springs are not subjected to heat. The valve lifter, which holds up all four valves simultaneously, is actuated from the handle bar. All the working parts are covered with dustproof shields, and the cylinders are cased in brass water jackets tested to 40 pounds' hot water pressure. The cranks are clipped on the back axle on squares to insure easy removal with an absolutely firm hold. The water tanks are placed immediately over the engine in one of the triangular bays of the frame, and, like the gasoline and oil tanks, are made of copper.

The surface carburetter, which occupies the front space, is sealed automatically to the air when not in use, so that the petrol never becomes "stale." The mixture valve placed behind the head of the machine has an indicator dial, and is so made that alteration of quantity does not affect the quality of the mixture. It is operated from the handle bar with a screw regulator, so that it can be set to one position. The switch, instead of being operated by twisting the grip, takes the form of a small trigger. The lubrication is automatic, and driven by a belt, so that when the engine stops lubrication ceases also. One fill of gasoline and lubricating oil will last the machine from ninety to one hundred miles. The footrests are bolted to the front engine plate and fitted with rub-

ber pads, giving a comfortable and firm support for both feet at the same level. No intermediate mechanism lies between the engine and the back wheel, which drives direct by connecting rods, with dustproof, ball bearing, big ends. It will be understood that the four cylinders are grouped in pairs, a pair on each side of the machine. The cross-head or connecting rod pin is between the two cylinders, which have a piston rod common to each.

While they are useful in case of emergency, it will be observed that pedals are fitted to the front wheel; but the makers maintain that these are unnecessary, and performances on the road have borne out the claim, as the bicycle can be started in the easiest possible manner. The rider takes a few steps forward, and mounts by one of the foot plates, the bicycle starting off without pedalling in just the same manner as



an ordinary bicycle is started, plus pedalling. The machine is very silent, and, owing to its large reserve of power, is a magnificent hill climber, as well as fast on the flat. The control is entirely from the handle bar.

Different Methods Necessary.

It is a generally recognized fact that steel hardening is an art depending to a very great degree on the workman for its success. While all work along the same general lines, each man will have peculiar methods of his own; and if his work is good no one thinks of finding fault with his methods.

"There might be some rigid rules laid down for the treatment of steel in hardening, but in my judgment they should be general, for as long as best results are got by one man by heating in a furnace from two to three to ten hours, while his neighbor does equally well by heating over a smith's forge in from twenty to thirty minutes, is not one method entitled to respect as well as the other?" asks a worker in metals.

"While one heats a big block of steel all through, much stress being laid upon its having time—hours—to get an even heat through the entire mass to harden its face only, and his neighbor hardens its mate equally well, and, he thinks, more safely, by placing it face down over a fire and dipping it as soon as so much at the face as he wishes to harden—or, put it in another way, as much as he can harden—is up to the hardening heat, full half of the block not yet red hot, and the two dies as a pair worn out together shew up equally well, is it wise to tell either of these men that his method is all wrong, and that only the other fellow's treatment is admissible?"

WOMAN THE CAUSE

Here's a man who Holds her Responsible for Trade Distress—How he Figures it.

They were discussing the Bicycling World's statement that much of the trade's distress is due to the trade's lack of enthusiasm and interest in organizations and affairs that advertise the bicycle and promote cycling enthusiasm.

"There's more truth in the assertion than the average man will care to admit," remarked the chap with side whiskers, "but if the probe is inserted deep enough the real cause of this distress and absence of enthusiasm is easily located. Matrimony did it, my boys—matrimony, and little else. Yes, sirs, woman is at the bottom of the cycle trade's troubles. Oh, don't laugh!" he cautioned, as smiles overspread the others' faces. "It's not altogether a joke. There are five of us right here. Four of us were engaged in the trade at some time or other, and when we were younger maybe we weren't redhot club men, eh? We were in the thick of everything; every one of us had a club or a League title; we never missed a cycling event. But when did we commence losing interest in clubs and in the League? When did we cease to attend race meets? When did we cease to act as officials and to serve on committees? When? Just about the time we married or were preparing to marry. The girls we rode with or who occasionally joined in our club runs became our wives, and then—well, they did not seem so anxious to ride, and if we felt like it, it wasn't as easy as it used to be for us to let our meals 'slide' on holidays and Saturday afternoons, or to go away at early morning every Sunday and return the Lord knows when in the evening. In consequence we cut out the clubs and the committees and about everything else that took us away from our homes or our work.

"Make fun of it if you will," persisted His Side Whiskers, as some of the party "gave him the laugh," "but I tell you my contention is not far wrong. I doubt if ever there was an industry so largely made up of young men—young unmarried men—as was the cycle trade. When they were boiling with enthusiasm the business boiled; when their enthusiasm simmered the business simmered, and there you are! And I maintain that the simmering began about the time Matrimony commenced to gather in the boys. The business 'settled down' to humdrum about the time they 'settled down.' When the younger generation of cyclists became of club age there were few clubs left for them to join, and no enthusiasm to impel them in that direction."

As Side Whiskers neared the end of his argument the youngster of the party eyed him curiously, and softly whistled the air, "Go 'way back and sit down!"

"You take matrimony too seriously, Whiskers," he finally ventured.

"Oh, do I? Tell me, then, why none of you belong to a bicycle club and no longer take a live interest in cycling affairs."

None ventured an answer.

Here's an Almost

"LIFE-SIZE" REPRODUCTION OF THE BEAUTY.

Having proved itself as good as it looks, can you wonder that it has fairly captured the trade for 1902, and is carrying all before it?



It represents nine years' belief in and effort to perfect the hammock-type of saddle, and now that the hammock type is paramount what more natural than the present situation: "the Persons first, the others nowhere!" The Persons saddle was never found on a cheap bicycle. The year 1902 will find it the distinguishing characteristic of the really high-grade bicycle. You are entitled to it if you pay the price of such a bicycle. Incidentally, there's a special price of the Persons Special. Are you "on"?

PERSONS MFG. CO., CHAS. A. PERSONS, Pres't, WORCESTER, MASS.

First Impressions are Valuable.

WHEN a probable purchaser obtains a favorable impression at the outset, the salesman's task is half completed.

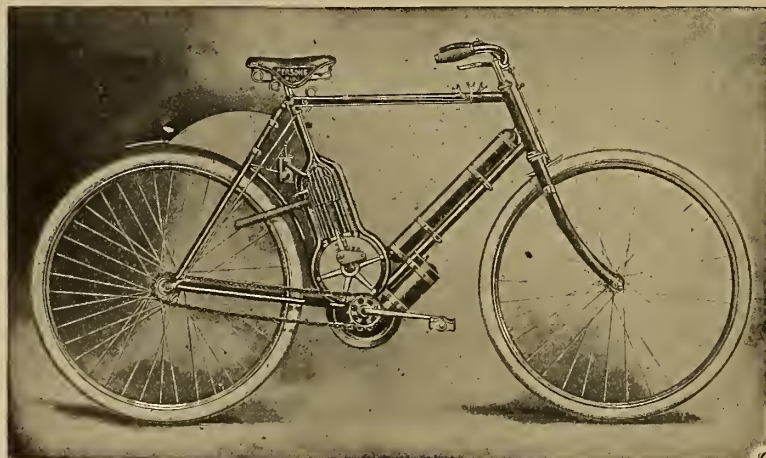
The intending
"likes the looks of
ready half won.
him; you know

A first impres-
to a half decision;
—the argument—

Apropos, have
man interested in
who, having seen
ly their pictures—
ably impressed

We are not sell-

looks alone, but we believe those agents who appreciate the value of first impressions will take looks into consideration. We assert that the Royal is just as good as it looks, and we are ready to back up the assertion with substantial proof whenever you may ask for it. To-day is a pretty good time to do the asking.



purchaser who
the thing" is al-
You've all met
how it is.

sion is equivalent
it reduces the talk
by more than half.
you ever found a
motor bicycles
them all—or mere-
is not most favor-
by the Royal?

ing the Royal on its

ROYAL MOTOR WORKS, CHICOPEE FALLS, MASS.

THEIR 1902 MODELS

Wisconsin People Make Known Their new Line—Its Distinguishing Features.

The first of the 1902 bicycle catalogs to make its appearance is that of the Wisconsin Wheel Works. Red and green are the prevailing tints, a cyclist on a Mitchell motor bicycle illuminating the cover. Including this bicycle, seven models are listed, three of them for women, but without prices.

One-inch tubing is employed in Model 47 and in the 21-pound road racer, 1½-inch in the others—all, of course, flush joints and head fittings. Each model is distinguished by a particular fork crown—square, enamelled, on one; square, nickelled, on another, and triple plates on No. 47 and the racer. The motor bicycle has a four plate crown. The equipment also differs, the Wisconsin line being particularly "long" on tires. On Models 40 and 41 Mitchell single tubes rule;

by actual brake test, which the Mitchell people claim is equal to 3 or 3½ horsepower as many other motors are rated.

The Mitchell guarantee is "wide open"; it specifies no particular time limit.

The Lightest Motor Bicycle.

In the matter of weight reduction George E. DeLong, of 66 West One Hundred and Twenty-fifth street, New York, has made a big stride forward with his motor bicycle. The bicycle, to which the Bicycling World recently made reference, and which is shown by the accompanying illustration, weighs, "ready for business," but sixty pounds.

The dispensing with tanks and heavy casings for coils and batteries is responsible for the comparative lightness, the gasoline (two quarts) being carried in the upper frame tube, and the coil and battery being stowed in the lower tube; the end of this tube is secured to the under side of the bottom bracket, and is left open for the admission of coil, etc. As will be seen, this method of construction does not mar or encumber the

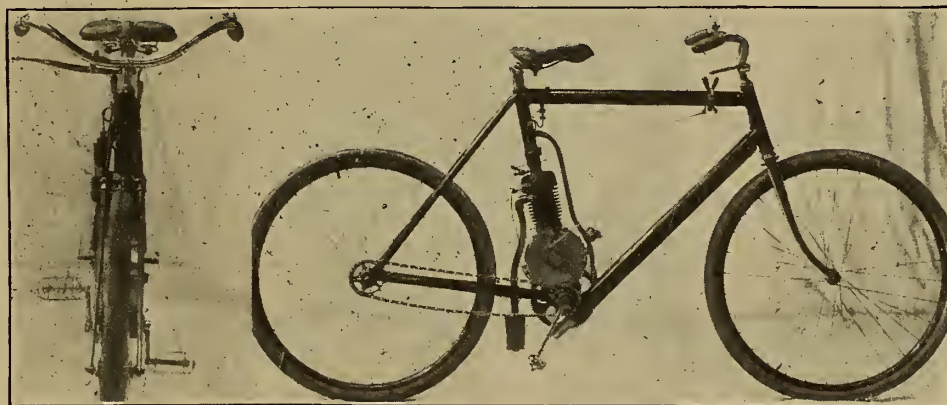
WHY MEN SWEAR

Prof. Patrick Undertakes to Give the Reasons—Oaths a Purifying Agent.

Professor Patrick in the Psychological Review has concerned himself with those questions of interest to mankind, "Why do men swear?" and "When they swear, why do they use the words which they do?"

From a classification of the various forms of profane expression used by men at different periods of history, and an examination of their connection with religious words, the professor concludes that profanity is not to be regarded as primarily an expression of emotion, but is only to be understood by the genetic method, the point of departure being the growl of anger in the lower animal, which is a serviceable form of reaction in cases of combat.

It belongs, therefore, to a primitive form



DE LONG'S MOTOR BICYCLE, WEIGHT 60 POUNDS.

on 45 and 46, options on Dunlop, G & J and Goodyear detachables are given, and on 47 and 50, options on M. & W., Kokomo and Pathfinder tires. Goodyear five-ply detachables exclusively used are on the motor cycle. In colors, options on black, green and carmine are afforded.

The summary of the improvements on the Mitchell motor bicycle follows:

Driving pulley now made V shape, according to a formula laid down by makers of round belts.

Valve lifter.—A lever is now provided convenient to the right hand by means of which the exhaust valve can be opened at any time; by its use the machine can be started 50 per cent easier; it allows the machine to coast freely with the gasoline cut off, thus cooling motor and saving fuel.

New speed lever convenient to the right hand, making it much safer for the novice.

Ball bearing idler, which reduces friction materially.

Belt of twisted rawhide, guaranteed not to break.

The motor used, running at 1,400 revolutions per minute, develops full 2 horsepower

lines of the frame, which is of 2-inch, 16-gauge tubing. The machine is driven by two chains, has few wires, is automatically lubricated, has a tread of but 5½ inches, and is fitted with a clutch that locks the cranks and yet unlocks as easily, thus affording a firm footrest that is both desirable and grateful. The bicycle has been in almost constant use since May last, and has rendered excellent service.

In addition to those detailed, DeLong has not a few other original ideas. He is dispensing with both switch grip and lever for electrical contact, and is applying instead merely a button in the handle bar, near to the point where the thumb rests; this will make it literally a case of "push the button" to start or to stop. He is also working on a fore carriage for attachment to motor bicycles, in which the front wheel of the latter is employed in the conversion from bicycle to tandem tricycle; by this means but one extra wheel will be necessary.

When a man has no special interest in his plant, or in his work, then the employment that should be an agreeable occupation becomes hard labor.—(W. H. Wakeman.

of vocalization, and hence is ancient and deep seated, being one of several forms of speech preceding articulate language by an indefinite period of time. By a process of selection it chooses at all times these forms of phonation or those articulate words which are best adapted to terrify or shock the opponent.

Although originally useful in combat, the occasion of profanity at the present time may be any analogous situation in which our well-being is threatened, as in helpless distress or disappointment.

If, then, the oath is a form of instinctive reaction and even a purifying agent, why is it considered to have an immoral quality?

Professor Patrick thinks for two reasons—first, because advancing civilization bids us evermore inhibit and repress, and, secondly, because of the unfortunate but inevitable connection between profanity and the sacred names of religion.

The Badger Brass Mfg. Co., Kenosha, Wis., have added "squawkers," or automobile horns, as they are now termed, to their line of manufacture.

ANNOUNCEMENT.

Wolff-American^{and} Regal

Bicycles for the season of 1892 are now ready. These well-known lines of wheels are replete with new and meritorious features.

Our salesmen are on the road showing new models and offering a proposition that is *right*.

It will afford us pleasure to hear from dealers who are interested.

STEARNS BICYCLE AGENCY, General Distributors, **Syracuse, N. Y.**

"Words of Others Tell the Story."

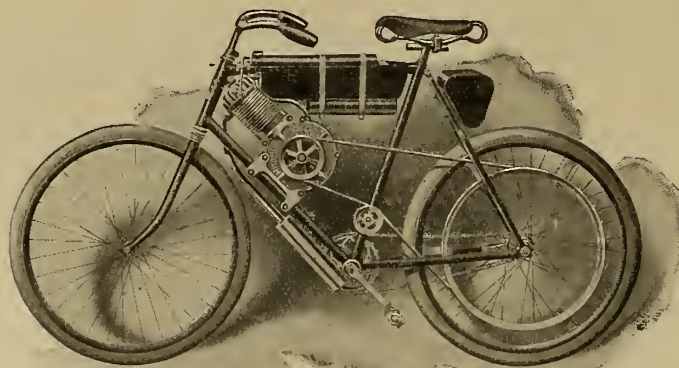
Mineola, N. Y.,

Oct. 14, 1901.

"The Mitchell Motor Bicycle arrived on Saturday and I am perfectly satisfied as to its looks and running qualities.

I have had considerable experience with other makes of motor bicycles and am satisfied that you are making the best \$200 motor bicycle in the world."

FRANK P. SEAMAN.



MITCHELL MOTOR BICYCLE.

Freeport, Ill.,

Oct. 14, 1901.

"I must say that for beauty the Mitchell Motor Bicycle is O. K., and for running mine at present is equal to any.

I have repaired and also rebuilt one pacing tandem for Messrs. Judd and Kramer, of Springfield, Ohio, and I have a ——— motor bicycle in the shop now for repairs, from Mason City, Iowa, and it is rather a peculiar looking affair. I wouldn't trade my Mitchell for one hundred to boot for it."

FRED JASTRAM.

WE MAKE A FULL-LINE OF PEDAL-PROPELLED MITCHELLS, TOO.

WISCONSIN WHEEL WORKS, BOX W, RACINE JUNCTION, WISCONSIN.

ENGLISH SHOW PROSPECTS

Motor Bicycles the Feature—"Assemblers" Rush in and Mischief Likely.

London, Nov. 13.—Next week we shall be plunged into the show work, and shall be able to tell in a fairly accurate manner the actual advances which have been made in the manufacture of motorcycles. It is now pretty certain that nearly every stand will have samples of these machines. I am rather surprised to note that, according to the entries, very few attempts at water cooling are made. This is perhaps not so great a fault as one or two writers would have us believe, for, although water cooling undoubtedly produces a higher efficiency, yet it is complicated to a certain degree, and the average man who buys a motorcycle is quite content with a pace of twenty miles an hour, which he can get without undue bother. Indeed, this speed is almost too high for some buyers, and it seems to me that it would be better for the manufacturers to seriously consider the advisability of gearing lower, so that a better all round pace and greater hill climbing power would be attained in place of speed on the level, which a great many do not care about.

The National Show has a great pull over the Stanley, so far as motorcycles are concerned, by the fact that trial machines can be seen and actually tried on the terrace, the surface of which is like that of an ordinary road. As the length of the run is over a quarter of a mile, and there is ample width for turning, it follows that intending purchasers can view the machines in action and actually try them. At the Agricultural Hall no such facilities are available, for the greasy roads outside are hardly suitable for testing purposes, while there is always a considerable amount of vehicular traffic upon them.

The factors of motors and motor parts suitable for motorcycles are now doing remarkably well. The demand, they tell me, is very much greater than they at first anticipated, and is far greater than is the case with components for mototricycles and quads. The cheapness of the motorbicycle, and the fact that it contains few complications and presents no difficulties in the way of the moderately skillful assembler, are points in its favor and have had the effect of greatly pushing on the trade in parts. In fact, a great many orders are waiting to be executed, and in some cases agents who placed small contracts at bottom prices are making a good thing by reselling the engines as they come to hand to those fellow assemblers who were not so far seeing. Many of these latter are willing to pay well for the accommodation, so that there is a profit without working for it.

The new pattern of Minerva motor seems to be universally well spoken of by the trade, and practically all the assemblers will adopt it. It is much more powerful and appears

to be better made than the older pattern, but the latter has still many supporters, and, in spite of the introduction of the large motor, the old one cannot be bought at less than its normal selling figure. This shows that the demand is excellent. On the other hand, some firms are contemplating using the Werner motor, which is now being sold at a component. Several men who can be relied upon to give a good opinion say that, weight for weight, the Werner is the more powerful.

I rather expect that there will be some undue price cutting at the Stanley Show, because there are a good number of small makers who have gone into the making of motorbicycles without duly counting the cost. Therefore they will want to realize some of



NEW YORK BRANCH: 214-216 WEST 47TH STREET.

their money, and may in some cases be content to do so even at a loss, and at the end of the show some bargains will probably be picked up by those on the lookout. This in itself may not matter, but we do not want the public to think that the motorbicycle can be bought for some \$100, because that will mean ruin to those makers who are really in the trade as a business, and have not entered it without due consideration of the cost.

The other day I met a rider of the motorbicycle which is driven by means of a friction roller in contact with the driving wheel tire. This machine I recently described. The mud thrown by the device was truly appalling, and quite justified my contention that the pattern would be little good for ordinary road work. I have not seen the machine ridden on dusty roads, but the owner told me that the dust thrown up was, he thought, almost more objectionable than the mud. He was anything but satisfied with his bargain. It is really wonderful that such a means of transmission could have been put upon the market by any one acquainted with the conditions under which motorbicycles have to run in this country. However, it will not cost much to alter the machine to the ordinary belt driving pattern, which is by far the most satisfactory device as yet in the market. The belts occasionally give trouble, but only at the joins, and it should not be a difficult matter to improve upon the present system of uniting the ends.

TESTING "FREE WHEELS"

How the Marvelous "Coasting Records" are Made Abroad—Challenges now Pass.

It develops that the so-called "free wheel" or "coasting records" (which stand at about a mile and a half) made on the British tracks, to which the *Bicycling World* made reference last week, are little more than performances of trick riding. The manner in which the cycling public is being deluded has finally caused the press to raise a voice of protest.

The theory upon which these performances were originated, and in accordance with which the public supposes that they are still accomplished, is that, having got up top pace, the rider ceases to work and remains perfectly still, so as to ascertain how far his machine will run, without pedalling, by its own momentum, says one of the protesting journals. If this practice were pursued in its integrity, such performances might have some value attached to them, although the skill of the rider would always have more to do with the result than the freedom of the clutch. But the fact is that the performances have little genuine about them, but are deliberate displays of trick riding, and instead of being proofs of the freedom with which a clutch will run, they are in reality only proofs of the muscular skill and endurance of the rider's muscles.

The explanation of this is that the way in which the front fork of a bicycle is sloped forward enables the rider by violently jerking the front wheel from side to side to obtain a grip upon the ground sufficient to pull the whole machine and rider forward, so that by simply "wagging" the front wheel to and fro the rider can keep going at a slow pace for as long as his arms will hold out. Of course, this manoeuvre is only practicable at a slow pace—after the real momentum of the machine has become all but spent—but before that period is reached it is still possible for the rider to assist in the forward movement of the machine by jerking his body forward in the same way as the coxswain of a rowed boat will assist its propulsion by jerking his body forward in unison with the stroke of the oars.

Thus, the so-called free wheeling records are devoid of any utility as demonstrating the quality of the clutches used. If it is considered desirable that genuine free wheel records should be officially recognized, some very clear rules ought to be laid down to prevent the real object of the performance being destroyed by such dodges. Not only should the pedals be kept immovable, up and down, but the rider should be prohibited from jerking his body in any way, and should be required to keep his wheel perfectly straight.

Meanwhile, one of the "free wheel" manufacturers has challenged his rivals to a coasting contest for \$50 a side.

Every Rider Can Have One.

It is with more than one grain of salt that the story of a new English spring frame bicycle will be received. According to the account, one feature of the invention is that it can readily be adapted and fitted to any ordinary cycle in use, and, further, the total cost of the spring arrangement, so far as production is concerned, is marvellously low—in fact, a spring frame cycle will be placed upon the market without, practically speaking, any extra cost to the dealer.

And Still Growing.

The metric system is to-day said to be compulsory in twenty countries, representing more than 300,000,000 inhabitants—Germany, Austria-Hungary, Belgium, Spain, France, Greece, Italy, Netherlands, Portugal, Roumania, Servia, Norway, Sweden, Switzerland, Argentine Republic, Brazil, Chili, Mexico, Peru and Venezuela.

Miles's new Belt Adjustment.

It is a little odd that in view of the very considerable success that has attended the Werner type of motor bicycle it has not been copied by other makers.

Almost without exception, however, designers have adopted rear driving for their machines, preferring this, with all its attendant complexities and disadvantages, to the front drive, in spite of the simplicity of the latter. Two recent additions to the ranks of the Werner type of driving are to be noted, however, both of them English. One is no less than the Raleigh concern, the celebrated G. P. Mills having designed a machine of this type which possesses a number of excellent features, among them being an eccentric adjustment for the belt.

"Motocycles and How to Manage Them"; 126 pages, 41 illustrations; cloth bound. \$1. The Goodman Co., Box 649 New York. ***

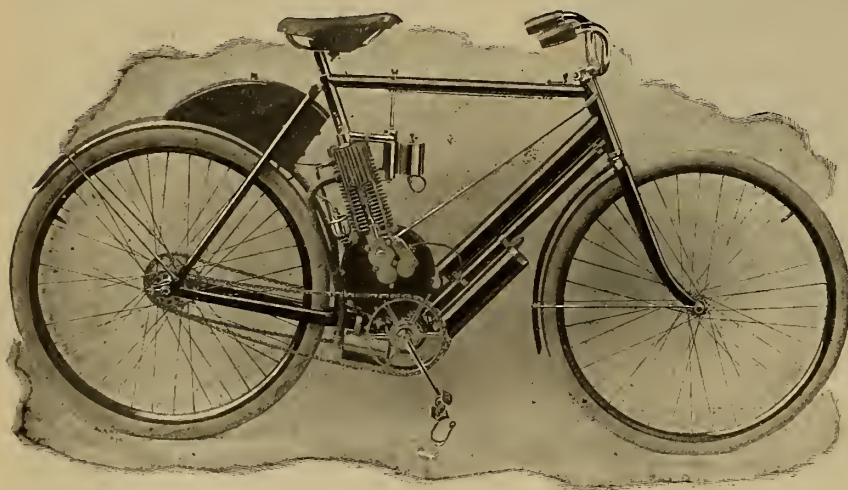
Resin and Whale Oil for Hardening.

The following process is said to be much employed in Switzerland for hardening steel intended to be used for tools: Mix well together four parts of resin and two parts of whale oil in an appropriate receptacle, and add one part of hot tallow. Immerse in this mass the articles to be hardened, having previously reduced them to a cherry red heat, and leave them in the solution until they become completely cold. They are afterward subjected to a temperate fire in the ordinary way. If bars hardened in this manner are broken it will be found the hardness is deeper and more equal than with any other process, and that the steel is less brittle.

Seventeen Were Started.

During the decade 1890-1900 the census reports show that seventeen new establishments for the manufacture of bicycles were started in Connecticut.

SOME BICYCLES, LIKE SOME MEN



Make themselves felt the moment they make their appearance. The INDIAN MOTOR BICYCLE is an instance of the sort. It went straight to the head of the procession the moment it was declared "ready for business." Agents are not exactly crying for it, but in good round numbers they are proving that they know a real good motor bicycle when it is presented to them. It is strong where others are weak (it *does* climb hills); it is simple where others are complicated. Its good points are so many that no advertisement can begin to do them credit. They are dealt with in our "advance courier." The courier and our agency proposition are ready. Are you ready for them?

HENDEE MFG. COMPANY
SPRINGFIELD, MASS.

WE DO NOT RAISE THE ANIMALS

from which the tops are made, but we do make (not merely assemble) each and every part that enters into the

OAK SADDLE FOR 1902.



The tops are the very best that money can purchase, and we guarantee them not to sag or stretch, and as a whole the 1902 Oak is not only the best saddle that we ever made but is the best saddle that ever has been or can be made. We know and are reasonably certain that we can convince you of the fact if you will but accord us the opportunity. Be fair to yourself and say the word.

NEWARK CYCLE SPECIALTY CO., NEWARK, N. J.

REPAIR SHOP ECONOMY

Why the Dealers Could not Show a Profit—Big Margin Necessary.

"It used to puzzle me, a few years ago, to know that my repair department made such a poor showing in a financial way," said the dealer, *advisedly*.

"There was always plenty of work to do during the season," he went on, "and it was done at what appeared to be remunerative prices. On the face of it there should have been a nice profit made, but the more I worked over my books to make this out the more unsatisfactory the result appeared to be. There was no getting around the fact, apparently; the balance at the end of the season was certain to be on the wrong side.

"It was the same whether I made my charges at so much per hour or by the job. There seemed to be a generous margin in either case, but the logic of figures always gave the lie to this pleasing belief.

"For example, I would make a charge of 50 cents per hour for the actual time spent on a job, with all material used as an extra. Now, this ought to have been ample. My very best men got 25 cents an hour, or \$15 per week, and it did look as if an addition of 100 per cent ought to pay for such things as rent, light, heat, tools, power, etc. Or, if I gave a price for the job, I figured to add 100 per cent to the outlay of time and material, and that ought to have brought the same result.

"But it did not, and for a long time I could not believe that there wasn't a leak somewhere. Where else could the money go? I asked myself. The men did their work well and rapidly, and no complaint could be made on that score. Plainly there was something wrong.

"As I worked on it, however, I began to see more clearly where the trouble was.

"I was in the habit of 'throwing in' such little things as cement and canvas or plugs for tire repairs. That seemed too trivial a matter to charge for, when I was already doubling my cost. I was also generous in other respects. Whenever there was any doubt about guarantees or the character of the work done by my men, the customer got the benefit of it. Jobs would be run in from the store and pushed through without any very strict account of them being taken. All these were little things in themselves, but in the aggregate they amounted to a great deal.

"So I changed things around and looked to it that I got my hundred per cent without any deductions for anything. That gave me a profit, although not a large one; and as long as I was able to obtain such prices I was all right.

"But everybody rushed into the business, prices were cut, and repairing on the old lines ceased to be profitable."

Imitation is to be avoided to the largest possible extent. When you feel like following the footprints of others change the appearance of the tracks as much as possible, advises The Advisor.

Nuebling Blames Manufacturers.

Editor The Bicycling World:

Referring to the article, "One Way to Better Trade," in your edition of the 21st inst., I would suggest that you write a similar editorial urging manufacturers to do their share of duty in the promotion of cycling.

You can hardly blame some dealers for discontinuing pushing the sale of bicycles. For instance, during the years of 1897, 1898 and 1899 the majority of the dealers were prominent in clubs, race meets, club runs, etc.; they would advertise, talk up, push and swear by certain makes of wheels; then, after they had created a demand for the wheels which they were handling, either the manufacturer would fail or else he would sell his wares to some other dealer in the same town or to some nearby department store; or, still worse, if the factory happened to be in the same town, it was not an uncommon thing for the manufacturers to sell their wares direct to riders at the same price that the dealers paid for them.

Manufacturers of bicycles who have done business under these methods are now almost extinct; they have either failed or are making some other article, and the time now seems ripe for some of the large manufacturers to devise some new method of advertising.

It would do a great deal more good if they spent less on magazine advertising, etc., and in place thereof donate bicycles to clubs who can turn out the largest number of riders in certain club runs, or give medals to riders who rode with the most club runs during a season. Again, let the manufacturers of coaster-brakes give a silver or bronze prize for the dealers in small towns or villages, to be awarded the winners in coasting contests. I think there can be found plenty of dealers who would undertake the management of such contests and the giving out of the prizes to the winners, providing the manufacturers furnish the material.

JOHN G. NUEBLING, Reading, Pa.

Chase and Robl Upset Records.

Robl, the German crack, has regained the hour record. At the Parc des Princes track, Paris, November 3, he covered 65 kilo., 742 metres within the 60 minutes—equal to 40 miles, 1,495 yards.

On November 9 on the Crystal Palace track Arthur Chase, the English rider, gave the long distance records a fearful jostle. His first mile was made in 1m. 54s. The ten miles was covered in 16m. 9 1/5s., 54 1/5 seconds outside his previous record. At twenty-five miles he was 2m. 74 1/2s. behind, and again at fifty miles he was still behind his previous performance. At fifty-one miles he got inside the records, however, and covered the 100 kiloms. in 1h. 41m. 82 1/2s. At two hours 72 miles 990 yards had been covered, which was 10 miles 540 yards better than the previous record, standing to Palmer's credit; 150 kiloms. were done in 2h. 34m. 22 1/2s., and the hundred mile world's record in 2h. 45m. 20 2/5s. Going on for the three hours, he finished with the grand total of 108 miles 1,026 yards, beating the three hours' record by 20 miles 126 yards.

LIFE OF TIRES

Good Ones Last Until Worn out—A Couple of Illustrations.

"It is the general opinion that tires have a very short life," remarked the rider who always looks carefully after his machine. "This is true on the whole, of course, but there are exceptions to that as to every other rule.

"In my 'stable' I have two machines shod with old tires. One set was made in 1898 and the other in 1897, and while they have not been run continuously since these years their mileage totals well up into the thousands. They have not received any extra amount of care, either. When the machines were not in use they stood in the cellar, exposed to dust and furnace heat in winter and dampness in summer.

"No one could be more surprised than myself at the way they have lasted. Their mates, fitted to my own wheels, single and tandem, went the way of all tires long ago. As they were used a great deal, this was only natural. They were worn out, and in course of time had to be replaced.

"But the common belief is that time is almost as wearing on a tire as hard service. If this were true these tires, four and five years old, respectively, would be quite worthless. The rubber would be dead, the fabric rotten, the tires themselves incapable of holding air. As a matter of fact, it is just the other way. The rubber has not cracked or blistered, and when the tires are pumped up they are free from unsightly protuberances and almost indistinguishable from the set of last year's tires that are fitted to my own machine.

"It does look as though the accepted theory in regard to tires was in need of revision, or else these were uncommonly good tires."

The Retail Record.

St. Augustine, Fla.—H. and W. Lillywhite, Granada street, new store.

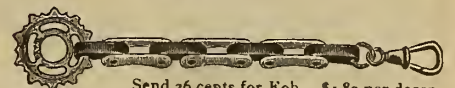
Herkimer, N. Y.—The Herkimer Cycle Co. has removed to the Kay Block.

INDIANA CHAINS

EASIEST RUNNING. CONSEQUENTLY BEST.



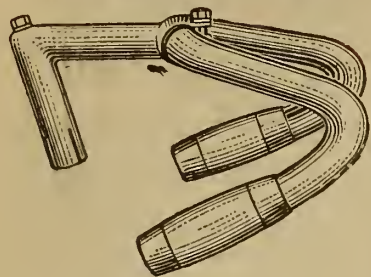
EVERY LINK IS RIGHT.
PRICE IS RIGHT.



Send 26 cents for Fob. \$1.80 per dozen.

INDIANA CHAIN CO., Indianapolis, Ind.

BRANDENBURG BROS. & WALLACE, Salesmen.
New York—Chicago.

The Standard High Grade Bar of America

IS THE

**IDEAL
Handle Bar.**

Why use the low grade of bars when you can get the best for a few cents extra. Our bars are better than ever. Out of the two large manufacturers who used 15,000 bars last season we were called on to replace only two

tops and no stems, and these were broken through accidents. The best firms use our bars, such as the Waltham Mfg. Co., Iver Johnson Arms & Cycle Works, J. Stevens Arms & Tool Co., Warwick Cycle Co. and also several branches of the American Bicycle Co. Our customers of the past who are still in business are still with us. You will make no mistakes by cataloging our goods. Get prices for the coming season. Electros for the asking.

IDEAL PLATING CO., 3 Appleton St., Boston, Mass.



MR. JOBBER,

Just a moment, please!

DON'T neglect to catalogue the
**Smith Two-Roller
Spring Seatpost**

IT WILL PAY

**YOU**

We furnish electrotypes. Write to-day.

JOS. N. SMITH & CO., Detroit, Mich.

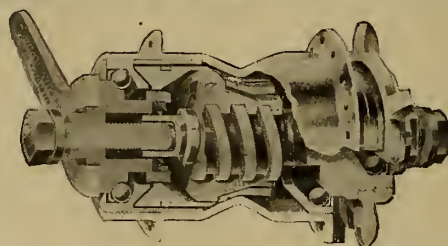
STAR RECORD BRIDGEPORT**1902 MODEL PEDALS****NOW READY.**

Send for Quotations and Particulars.

THE BRIDGEPORT GUN IMPLEMENT CO.

313-317 BROADWAY, NEW YORK.

The

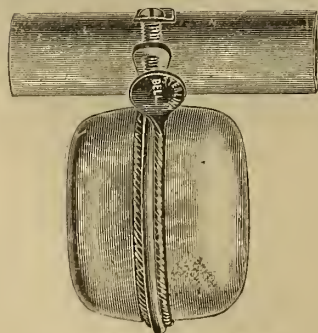
CINCH**"THE
ONE THAT
COASTS."****IT COASTS FREELY, PERFECTLY.****IT BRAKES SMOOTHLY, NOISELESSLY.****IS NOT LIKE OTHER
COASTER BRAKES.****RIGGS-SPENCER CO.,**

Manufacturers,

Rochester, N. Y., U. S. A.

C. J. IVEN & CO.,Exclusive Selling Agents
U. S. and Canada,

Rochester, N. Y.

Sterling Continuous Ringing Chime.**NON=WINDING.****Don't Make a Mistake.****Buy This Chime and
Only This.**

(PATENT APPLIED FOR.)

NON=REVOLVING**N. N. HILL BRASS CO.**

(Sole Manufacturers)

EAST HAMPTON, CONN.SALESROOMS: 84-86 Chambers St., NEW YORK,
45 Pearl St., BOSTON.

The Week's Record.

In point of values France headed last week's manifest of cycle exports, its purchases amounting to upward of \$9,000. Germany, too, took a shipment of goodly proportions. The East Indies, Australia and England were the other large buyers. The record in detail follows:

Antwerp—23 cases bicycle material, \$1,440.
Argentine Republic—3 cases bicycles and material, \$363.

British East Indies—83 cases bicycles and material, \$2,234.

Brazil—6 cases bicycles and material, \$421.

British Australia—41 cases bicycles and material, \$1,335.

British West Indies—44 cases bicycles and material, \$869.

Bremen—1 case bicycles, \$50; 3 cases bicycle material, \$240.

Christiania—1 case bicycle material, \$50.

Cuba—9 cases bicycle material, \$238.

Central America—3 cases bicycles, \$65.

Copenhagen—3 cases bicycle material, \$173.

Dutch Guiana—27 cases bicycles and parts, \$748.

Gothenburg—2 cases bicycles and material, \$35.

Havre—631 cases bicycles, \$6,087; 37 cases bicycle material, \$3,367.

Hamburg—111 cases bicycles, \$3,330; 6 cases bicycle material, \$350.

London—8 cases bicycles, \$200; 55 cases bicycle material, \$1,176.

Liverpool—30 cases bicycles, \$737; 2 cases bicycle material, \$125.

Rotterdam—11 cases bicycles, \$249; 3 cases bicycle material, \$190.

Southampton—4 cases bicycle material, \$76.

Stockholm—11 cases bicycle material, \$484.

Trieste—1 case bicycles, \$25.

Personality in Business.

Every successful business man has some traits of character that have been largely responsible for his success. It may have been constant attention to factory or store; a capacity for new and more effective methods; a higher reputation for integrity and courtesy, or the possession of the faculty of good salesmanship.

There is no doubt that the great majority of business men could increase their business and add to their wealth by careful attention to their own actions and methods. Many a manufacturer could improve his chances of success by learning how to become a merchant—a distributor as well as a producer.

The business man who appreciates the importance of character and reputation in his debtor should be the last to forget it in his own case. Yet, how often is this overlooked by those who know the results of carelessness in the prompt payment of accounts and of speculating so heavily as to create unfavorable comment.

"Defects (in motorcycles) and How to Remedy Them." See "Motorcycles and How to Manage Them." \$1. The Goodman Co., Box 649, New York.

Estimating Profits.

Many dealers, especially those doing a small business, sell goods at too small a margin of profit, and wonder why it is that they are not getting ahead.

Hundreds of retail dealers seldom, if ever, sit down and devote an hour or two systematically figuring out what it costs them to do business.

No matter what a man may sell, the calculating, systematic man, who does a good deal of figuring and knows just what he is doing, has a vast advantage over the dealer who seldom, if ever, does any figuring for his own benefit, but contents himself with opening the store in the morning or getting there at a certain time, waiting on customers, going home at night and trusting to luck that he will win out sometime—a humdrum existence month after month.

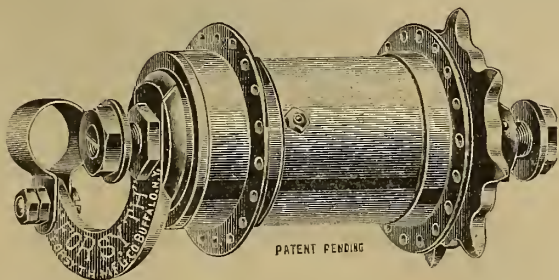
The successful dealer keeps his invoices carefully, has a cost book and is very careful to place prices on his goods in such a way that the cost of the goods, the cost of doing business and a profit will be provided for. If a credit business is done there is a percentage of loss on bad bills every year. It cannot be otherwise. This must be taken into account. The dealer must draw a salary or a certain amount for his own living. This is as necessary a part of the expense of doing business as rent or clerk hire and must be figured into the cost of selling.

Some of the cheap vehicles of unknown make are models of weakness.

Improvement is still the order
of the age.

THE FORSYTH IS A COASTER BRAKE OF TO-DAY

not of yesterday.



It embodies more real improvements than any other on the market—not merely alterations, mind you, but genuine improvements.

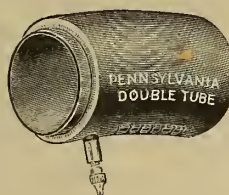
YOU SHOULD NOT PERMIT YOURSELF TO REMAIN
IN IGNORANCE OF THEM.

It will afford us pleasure to post you,

FORSYTH MFG. CO.,

BUFFALO, N. Y.

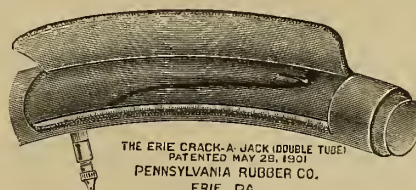
Jobbers, Be Wise!



Handle these
Goods and
MAKE MONEY.

STAY WITH THE GOLD MEDAL WINNERS.

Write for
our
1902
Price
List.



Don't close
until you
consider
our entire
line.

**PENNSYLVANIA
Rubber Company,**
ERIE, PA.

BRANCHES:

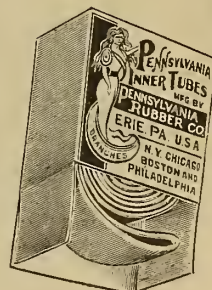
NEW YORK

BUFFALO

CHICAGO

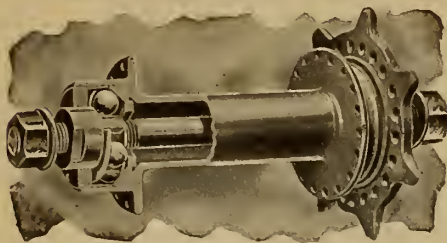
PHILADELPHIA

BOSTON



CHAMPION HUBS

Write for Complete Description and Prices.



LIGHT WEIGHT RACING MODEL.)

ALSO REGULAR ROAD HUBS.

Worthy of Their Name.

VULCAN HUBS.

Cheap but Good and Well Worth Their Price.

I. A. WESTON CO., Syracuse, N. Y.
Selling Agents, C. J. IVEN & CO., Rochester, N. Y.

HIGH GRADE

wheels must have the best equipments.

There is nothing that gives more value for the money than the use of the

MORSE TWIN ROLLER CHAIN



NOISELESS IN MUD, WATER OR DUST AND ALWAYS EASY RUNNING.

The only chain having Frictionless Rocker Joints. Insist on having the Morse Twin Roller. Fits regular sprockets.

Send for Catalogue and Trade Price to

Morse Chain Co., Trumansburg, N. Y.

WANTS AND FOR SALE.

15 cents per line of seven words, cash with order.

WANTED—Everyone interested in motor bicycles to purchase "Motocycles and How to Manage Them." Contains 126 pages bristling with information. \$1.00 per copy. For sale by The Goodman Co., 154 Nassau St., New York City.

POSITION—Wanted as branch manager or traveling representative for Tire or accessory house. Large acquaintance in the trade. Address X. Y. J. Box 649, New York.

It is reported that the British War Department is about to place an order for "an enormous number" of military bicycles for use in South Africa.

THE ARMSTRONG "A" CRANK HANGER THE "A" HANGER



is conceded by competent judges to be the most perfect in point of design, mechanical construction, finish and materials used, that it is possible to produce.

Made in one grade only, the highest. Handsome In Appearance. Simple in Construction. Easy and Positive Adjustment.

We make the most complete line of BICYCLE FRAME FITTINGS and CRANK HANGERS on the market. Our 1902 prices are low. Write for them.

ARMSTRONG BROS. TOOL CO., Chicago.

Century Cycles

couldn't be better.

MILWAUKEE CYCLE CO., Milwaukee, Wis.

Bicycle Parts and Tubing

WRITE US FOR PRICES.

THE STANDARD WELDING CO.
CLEVELAND, OHIO

NEVERLEAK

STOPS LARGE PUNCTURES.

This is the only fluid that can be legally used in pneumatic tires. Suits now pending.

BUFFALO SPECIALTY MFG. CO.,
Buffalo, N. Y.

HAND AND FOOT PUMPS,

Oilers, Repair Tools,
Valves, Name-plates, etc.

Spelter Solder

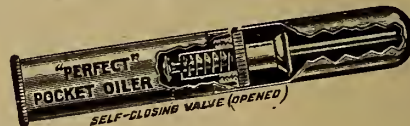
Sheet Brass,
Brass Wire and Rods.

SPECIALTIES to order
MADE OF BRASS.

SCOVILL MFG. CO.

Factories: Waterbury, Conn.
Depots: 210 Lake St., Chicago.
423 Broome St., New York

"PERFECT"



OILER.

For High Grade Bicycles. The best and neatest Oiler in the market. DOES NOT LEAK. The "PERFECT" is the only Oiler that regulates the supply of oil to a drop. It is absolutely unequalled. Price, 25 cents each. We make cheaper oilers, also.

CUSHMAN & DENISON, Mfrs., 240-242 W. 23d St., NEW YORK.



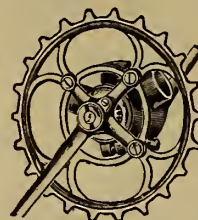
THE MAGIC

A COMPLETE REPAIR TOOL FOR ALL SINGLE TUBE TIRES.

HAS A POINT ONLY 1/16 IN. DIAMETER.

THE MAGIC is as good as ever. But prices are different. Get our new quotations for 1902 and you will be right in it. You will find it well worth the trouble.

THE MAGIC REPAIR TUBE CO., 250 LARRABEE ST., CHICAGO, ILL.



"D. & J." HANGERS

FOR Single, Tandem, Triplet, Quad and Motor Cycles. ABSOLUTELY THE BEST

Lightest, Nearest Dust Proof, and Easiest Running Hanger in the World. Park City Mfg. Co., Inc., Chicago

COLUMBIA AUTOMATIC GAS LAMP

FOR BICYCLES, BUGGIES AND MOTOR VEHICLES.



Positively automatic water feed, i. e. the water feed is positively controlled by the gas pressure, which is regulated by a gas-cock.

No carbide wasted. Charge can be used repeatedly until exhausted, the same as in an oil lamp.

Lights at once. Turns down or out at once.

Uses one-half the carbide necessary in a large lamp, and gives as good a headlight as the best.

Height, 5 1/2 in. Weight 18 oz.

5,000 of these lamps in use on buggies, carriages and motor vehicles in Chicago this year.

We maintain prices. We carry the stocks ourselves, and you can return surplus lamps at the end of the season.

Our goods are sold on their merits alone. It is not necessary for us to offer prizes. Fine art calendar for 1902 mailed free to the trade on receipt of letter head.

HINE-WATT MFG. CO., 60 WABASH AVE., CHICAGO, ILL.

If You Desire Complete Motor Bicycles

You cannot get a better one than

THE MARSH.

If You Desire to Build Your Own Motor Bicycle

We can supply everything which you require for the purpose. Write us.

The Motor Cycle Mfg. Co., Brockton, Mass.

THE BICYCLING WORLD

FOUNDED 1877

and MOTORCYCLE REVIEW

In which is incorporated "THE WHEEL" (New York) and the "AMERICAN CYCLIST" (Hartford)

Vol. XLIV.
No. 10.

New York, N. Y., U. S. A., Thursday, December 5, 1901.

\$2.00 a Year.
10 Cents a Copy.

To the man who is literally looking for "the most for his money," the Barwest may be disappointing.

It contains but nine (9) parts; there are some others that contain 40.



The Others - - 40 pieces

The Barwest - 9 "

Balance in favor (?) of others 31 "



Hence any man purchasing coaster-brakes can get nearly four times as many pieces by purchasing other than the Barwest.

The man who appreciates that the fewer the parts the greater the simplicity and satisfaction will quickly see the point. We are not finding very many men, however, who lack appreciation of the sort. Have we heard from you yet?

BARWEST COASTER BRAKE COMPANY, 83 Chambers Street, NEW YORK.

PACIFIC COAST DISTRIBUTORS: Phil. B. Bekeart Co., 114 Second St., San Francisco, CALIF.

WASHINGTON D. C. NOV 21 1901

SHEET STEEL TAMPINGS

THE CROSBY COMPANY

BUFFALO, N. Y.

GET IN THE BANDWAGON.

DIFFERS
FROM A BICYCLE
THEREFORE ITS PRICE
IS DIFFERENT
NO CHEAP RACYCLES

RACYCLE
SAVES 27%

RACYCLE
NEVER SOLD BY
MAIL ORDER HOUSES
THE GRAVE DIGGERS
OF THE TRADE

SAME
PRICE TO
ALL DEALERS
NO RACYCLES LENT
GIVEN AWAY OR CONSIGNED
NO INDUCEMENT EXCEPT
THE RACYCLE

LET ME IN
TOO MANY DYING
IN THE
PROCESSION

RACYCLES LEAD
OTHERS FOLLOW

CYCLE
FACTORY
DIED
1900
BOM PARTS

DEAD
BICYCLE
CO.
DEPARTED
THIS LIFE
1899

CO-
DIED
1898

1902

EXTRA
INDUCEMENTS

JAN. 1898

JAN. 1901

SEPT. 1901

JAN. 1902

288 BICYCLE FACTORIES

69 BICYCLE FACTORIES

35 BICYCLE FACTORIES

RACYCLE ANYWAY

MIAMI CYCLE & MFG. CO. MIDDLETOWN-OHIO

KREMBIEL-CO. CIN. O.

KOKOMO RUBBER CO.

MADE RIGHT

KOKO TIRE

SOLD RIGHT

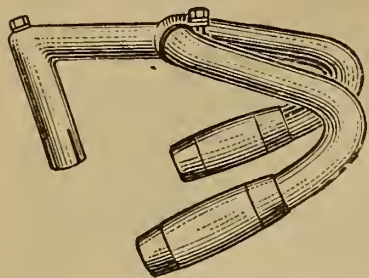
WRITE TO-DAY



KOKOMO, INDIANA



The Standard High Grade Bar of America



IS THE

IDEAL Handle Bar.

Why use the low grade of bars when you can get the best for a few cents extra. Our bars are better than ever. Out of the two large manufacturers who used 15,000 bars last season we were called on to replace only two tops and no stems, and these were broken through accidents. The best firms use our bars, such as the Waltham Mfg. Co., Iver Johnson Arms & Cycle Works, J. Stevens Arms & Tool Co., Warwick Cycle Co. and also several branches of the American Bicycle Co. Our customers of the past who are still in business are still with us. You will make no mistakes by cataloging our goods. Get prices for the coming season. Electros for the asking.

IDEAL PLATING CO., 3 Appleton St., Boston, Mass.



MR. JOBBER,

Just a moment, please!

DON'T neglect to catalogue the
**Smith Two-Roller
Spring Seatpost**

IT WILL PAY



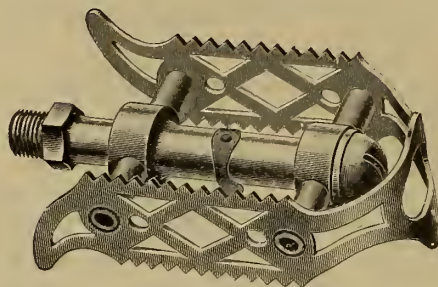
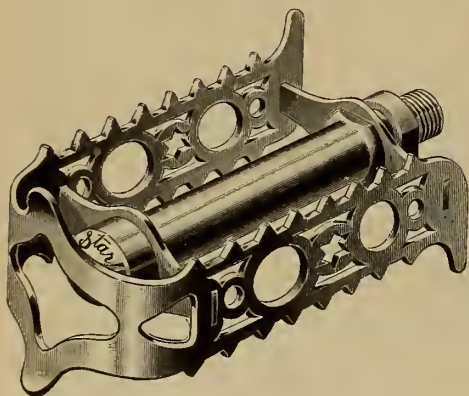
YOU

We furnish electrotypes. Write to-day.

JOS. N. SMITH & CO., Detroit, Mich.

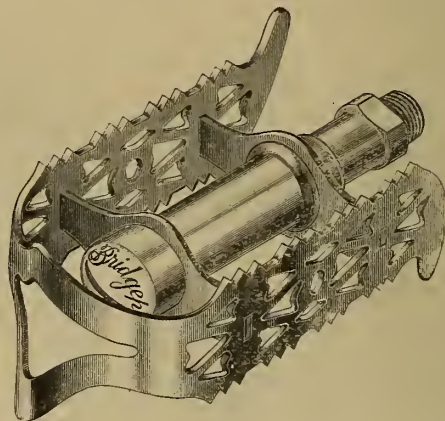
Star Record Bridgeport

PEDALS



1902 Models
Now Ready.

PEDALS



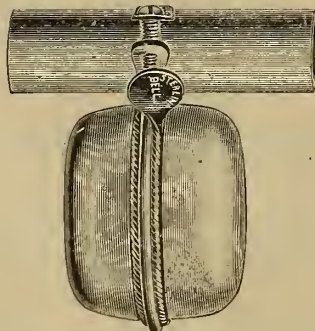
SEND FOR QUOTATIONS

The Bridgeport Gun Implement Company,

313-317 Broadway New York.

Sterling Continuous Ringing Chime.

NON=WINDING.



(PATENT APPLIED FOR.)

NON=REVOLVING

Don't Make a Mistake.

Buy This Chime and
Only This.

N. N. HILL BRASS CO.

(Sole Manufacturers)

EAST HAMPTON, CONN.

SALESROOMS: 84-86 Chambers St., NEW YORK.
45 Pearl St., BOSTON.



The Most Comfortable Bicycle

IS FITTED WITH A

"REGAS" SPRING FRAME

HAVE YOU SEEN IT ?

The Winner for 1902.

Sold to the Rider at a Popular Price.

ANY BICYCLE MANUFACTURER CAN FURNISH WHEELS WITH "REGAS" SPRING FRAMES. ABOUT SEVENTY-FIVE PER CENT. HAVE ARRANGED TO DO SO.

ARE YOU IN THE BAND WAGON ?

IT IS NOT TOO LATE; WRITE US FOR FULL PARTICULARS.

"REGAS" VEHICLE COMPANY, Rochester, New York

"Words of Others Tell the Story."

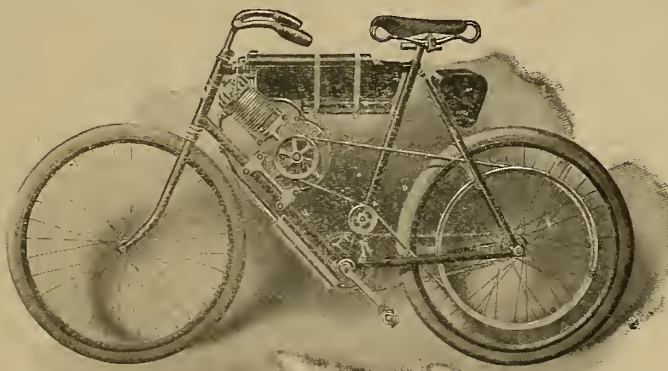
Mineola, N. Y.,

Oct. 14, 1901.

"The Mitchell Motor Bicycle arrived on Saturday and I am perfectly satisfied as to its looks and running qualities.

I have had considerable experience with other makes of motor bicycles and am satisfied that you are making the best \$200 motor bicycle in the world."

FRANK P. SEAMAN.



MITCHELL MOTOR BICYCLE.

Freeport, Ill.,

Oct. 14, 1901.

"I must say that for beauty the Mitchell Motor Bicycle is O. K., and for running mine at present is equal to any.

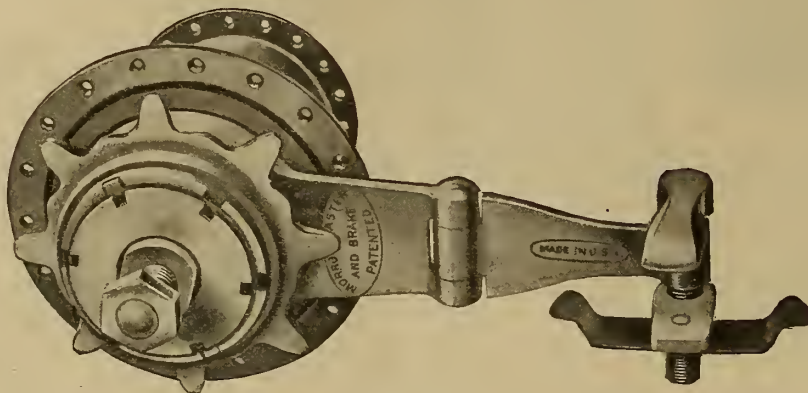
I have repaired and also rebuilt one pacing tandem for Messrs. Judd and Kramer, of Springfield, Ohio, and I have a — motor bicycle in the shop now for repairs, from Mason City, Iowa, and it is rather a peculiar looking affair. I wouldn't trade my Mitchell for one hundred to boot for it."

FRED JASTRAM.

WE MAKE A FULL-LINE OF PEDAL-PROPELLED MITCHELLS, TOO.

WISCONSIN WHEEL WORKS, BOX W, RACINE JUNCTION, WISCONSIN.

THE
1902 MORROW



JUST A WEE BIT BETTER

than the 1901 model

(There was not much room for improvement)

AND

A GREAT DEAL EASIER TO APPLY

to any make of bicycle.

(The hinged arm and new clip do it.)

THAT SUMS UP

what has been done to make more meritorious the most meritorious article on the market, and the one that has added most to the zest and enjoyment of cycling and to the profits of those engaged in the cycle trade.

OUR 1902 CATALOG IS READY.

ECLIPSE MANUFACTURING COMPANY

ELMIRA, NEW YORK, U. S. A.

The Bicycling World

AND MOTOCYCLE REVIEW.

In which is incorporated "The Wheel and Cycling Trade Review" and the "American Cyclist."

Volume XLIV.

New York, U. S. A., Thursday, December, 5, 1901.

No. 10

TOO MUCH PROTECTION

Australian Trade Protests and Proposes new Figures—America's Interest Large.

Melbourne, Oct. 30.—The new Federal tariff, generally speaking, does not please the Australian cycle trade. It has been submitted to the Senate, but finds little favor with the local makers and assemblers. Our original duty on bicycles, etc., was 10 per cent, while the parts came in free. Now machines are being taxed 20 per cent, finished and nicked parts 20 per cent, parts in the rough not otherwise included 15 per cent. It was submitted on the 9th inst., and the debate is still proceeding, that is, a want of confidence motion. The government will score, however, but it is almost certain the tariff will be pulled to pieces in committee. For this I have been waiting.

A meeting of the trade was held on the 25th inst., when the tariff was considered. It appeared to be the sense of the meeting that as Australia manufactured so few of the articles affected their protection was in the nature of "straining at gnats." While it was admitted that a tariff for revenue only was wise and a 10 per cent difference between complete bicycles and parts was proper, the tariff on the latter was held to be excessive. In some instances, wrenches, for example, those designed for use on bicycles were assessed 20 per cent, while those intended for general use were admitted free of duty.

The outcome of the meeting was the drafting of the following tariff, the "proposed tariff" being the figures advocated by the meeting. It will be presented to the government and petitions asking its adoption be circulated throughout the commonwealth.

Bicycles, tricycles and similar vehicles; cycle parts (except tires), brazed or permanently joined. Cycle frames, brazed or joined front forks; handle bars, saddle pillars, back forks, back stays, brazed or joined; cycle wheels built.—Last Victorian

tariff, 10 per cent; Federal tariff, 20 per cent; proposed tariff, 20 per cent.

Motor vehicles.—Last Victorian tariff, 25 per cent; Federal tariff, 20 per cent; proposed tariff, 20 per cent.

Cycle parts: The following finished component parts of bicycles, tricycles and similar vehicles, such parts not being brazed or joined together; such parts or parts thereof being ball heads, bottom brackets, chain wheels, axles, cranks, pedals, hubs, fork ends, stay ends, adjusters, seat pillars, lugs, back fork bridges, liners, handle bar lugs, rims, stampings and castings in the rough or partially finished.—Last Victorian tariff, free; Federal tariff, 20 per cent; proposed tariff, 10 per cent.

Spokes, nipples, washers, handle grips, balls, lamps, bells, lamp brackets, sprockets, hub clutches, inflator clips, inflator connections, cycle locks, repair outfits, solution, cement, lamp wicks.—Last Victorian tariff, free; Federal tariff, 20 per cent; proposed tariff, 10 per cent.

Brake work, saddles, saddle springs, saddle clips, cyclometers, tool bags, hub steps, gear cases, chain guards, dress guards, mud guards, trouser clips, toe clips, whistles, parcel carriers.—Last Victorian tariff, 10 per cent; Federal tariff, 20 per cent; proposed tariff, 10 per cent.

Motor parts, accessories for cars, cycles and motor vehicles.—Last Victorian tariff, 25 per cent; Federal tariff, 20 per cent; proposed tariff, 10 per cent.

India rubber, etc., including cycle and vehicle tires.—Last Victorian tariff, 10 per cent; Federal tariff, 15 per cent; proposed tariff, 15 per cent.

Cycle and motor tires, component parts for same; outer rubbers, inner tubes (not valved), canvas or fabric for cases, valves, tire tapes and buckles, valve patches.—Last Victorian tariff, free; Federal tariff, 15 per cent; proposed tariff, 10 per cent.

Cycle enamels and varnishes.—Last Victorian tariff, 2s. gallon; Federal tariff, 1s. and 15 per cent; proposed tariff, 2s. gallon.

Masticated rubber.—Last Victorian tariff, free; Federal tariff, 15 per cent; proposed tariff, free.

Division VI., metals and machinery.—Last Victorian tariff, free; Federal tariff, free; proposed tariff, free.

Spelter, brazing wire, brazing compo.—

Last Victorian tariff, free; Federal tariff, free; proposed tariff, free.

Wrenches (screw).—Last Victorian tariff, free; Federal tariff, 20 per cent; proposed tariff, free.

Chains in the piece.—Last Victorian tariff, free; Federal tariff, free; proposed tariff, free.

Tubing (not brazed up or plated).—Last Victorian tariff, free; Federal tariff, 15 per cent; proposed tariff, free.

As a result of the tariff the prices of many articles have been advanced. Tires, for instance (Dunlops), went up a dollar, but within three weeks were reduced by half a dollar, the company "sharing the increase with the agents." The Dunlop concern, however, has not the monopoly that the parent house has acquired in the United Kingdom, and, although the goods are generally accepted as being the best, about a dozen smaller makers do a fairly prosperous trade. The prices of parts—B. S. A. sets for example—have also increased, being formerly about \$20.60, but are now quoted at \$23 to \$24. Machines, complete, however, have not suffered, by reason, probably, of the fairly large stock on hand.

The condition of the trade generally is not good, although the tension has been eased by the shutting down of many small places during the winter. Wheels are being advertised, built to order, from \$45, but the better houses quote from \$62 upward.

The free wheel device is very popular here, American and English goods about halving the honors. There is also a growing demand for variable gears, which is looked upon as the coming thing in cycling. Spring frames are but little in evidence, though the quality of our roads fully warrants their use. In further reference to free wheels, many riders, after a trial of back-peddalling brakes in conjunction, prefer those to be applied altogether independently of the coaster; it gives greater variety of freedom and movement.

Components get Cushion Frame.

The Hygienic cushion frame has been taken up in England by the big Cycle Components Co., of Birmingham. This means that the frame will be sold to all comers, to the small makers as well as to the large ones. It should assure a wide spread of the cushion frame heaven.

INCREASED 300 PER CENT

Cushion Frame's Record for 1901—Causes and Policy That Brought it About.

As one of the examples of how "keeping everlastingly at it" brought success and is bringing it in increasing measures, the cushion frame is a shining mark. With not only its own way to win, but with the deep seated prejudice against the old spring frames to overcome, each year has seen it gain ground, not with a rush or tooting of horns, but none the less surely. The current year has marked its greatest stride, an increase of 300 per cent over last year.

To all who admire undeviating adherence to an upright and high minded policy, this substantial evidence of cushion frame success cannot but prove of considerable satisfaction. For, of all those engaged in the trade, than the Hygienic Wheel Co. none has clung longer and with more resolution to all that is conveyed by the term "high grade." This is not fulsome praise; it is irrefutable fact. The repeated refusal of the Hygienic people to permit the use of the cushion frame on any bicycle listing at less than \$50 is one sign of it. The fact, not so well known, that they have declined to license not a few manufacturers who, although making \$50 bicycles, were considered lacking in reputation or in the means that contribute to long life, is further testimony to the same effect.

In a word, it is and has been the Hygienic policy not to sacrifice the future for the present. Having a good name, it is their aim to preserve it as such names should be preserved. The policy will not be departed from.

Only recently it became necessary to decide whether or no the \$50 standard should be departed from. The Hygienic officers counselled with their licensees, and as a result the standard will be maintained; it will not be possible to purchase a cushion frame bicycle at less than that figure.

"If events should make it appear wise or necessary that the lower priced bicycles be reckoned with," said Vice-President Chute in informing the *Bicycling World* man of the decision, "we will cross the bridge when we come to it. But I am frank to say that whatever we may apply to such bicycles will not be the cushion frame. The cushion frame is more than a creator of comfort and a trade stimulant. It has been our effort to have it stand as a mark of quality and as an uplifter of the trade."

"Do you still encounter the old prejudice against spring frames?"

"Oh, yes! We meet with it occasionally. In fact, the hardest thing we have had to overcome has been the inability of many people to grasp the difference between the spring frame and the cushion frame. They see, or think they see, in every yielding device a loss of speed and power, and it has

required time to dissipate the notion. The difference is just this: Spring frames afford a billowy or teetering movement that is comparatively slow and deliberate, and that consumes energy, while the cushion frame acts as quickly as the pneumatic tire itself. The principle is the same. The cushion frame, like the tire, yields instantly and returns as quickly. There is no teeter. There can be no loss of power. We tried all manner and forms of spring frame, but the cushion, as we employ it, is the only form in which we could obtain the pneumatic tire effect.

"Another difficulty we have had to contend with," went on Mr. Chute, "is the proneness of factory superintendents to alter our device. It has caused some trouble and disappointment in a few instances, but happily the cushion frame as we supply it is now generally accepted as correct, and there no longer exists any inclination to attempt 'improving on it.'"

"Then it has undergone no change of any sort?"

"Absolutely none whatever. We have been utterly unable to find a single point capable of further improvement."

"To what do you attribute this year's 300 per cent increase?"

"To many causes. The cushion frame is more generally understood and appreciated, and the public has ceased to crave for mere cheapness. But one of the chief contributing causes is the general adoption by the manufacturers of a cushion frame model as a distinct model. It is much easier to sell a bicycle of the sort than to offer the cushion frame merely as an 'extra' or an option at an extra price. The American Bicycle Co. has recognized the fact, and for 1902 will market a cushion frame model in each of its high grade lines."

"Why is it that some manufacturers and some dealers have sold so very many more cushion frames than their competitors?"

"It is largely a matter of faith in and appreciation of the frame. We frankly told every one with whom we ever dealt that if they did not believe fully in the cushion frame, and did not mean to push it, we preferred that they leave it out of their considerations. We are not anxious that it merely be mentioned in catalogues or carried in stocks. We know the cushion frame will sell well when the effort is made energetically and in good faith, and we prefer that it be unrepresented altogether rather than that it be misrepresented or shelved.

"The best and surest way to sell a cushion frame is to give the prospective purchaser a chance to ride it; it is better than hours of argument. I have known men who actually scoffed at the very idea to be converted by one ride. John G. Swindeman, the well known Toledo dealer, is a fair example. He called the cushion frame a freak, and made all manner of fun of it. He would not have one of them in his store. But one day a friend of his induced him to ride one, and,

merely to please him, he did so. As a result, there is not to-day a more enthusiastic advocate of cushion frames in all America than this same Swindeman."

"How do you account for the fact that so many dealers make no effort to sell a cushion frame or other \$50 bicycle when the sale will net them a larger profit?"

Mr. Chute smiled.

"I'm afraid it is because too many of them are not business men," he said. "They rushed into the business when every one was crying for bicycles. There were no risks attached to it, and it required no ability whatever to sell them. I have had men excuse their failure to sell cushion frames on the ground that it required more time and talk than to sell the cheaper bicycles. But my first question to such dealers is: 'Why don't you let them ride a cushion frame?' It is the trial that convinces, and that makes the sale. The man that advances the 'too-much-talk' plea has simply failed to learn his book."

Germany Making Headway.

Germany is gradually obtaining possession of its own market for bicycles. Its imports are declining correspondingly. For August they fell to 282 cwts., against 508 in 1900, of which 72 came from America. The total imports for eight months (January-August) have been reduced from 6,578 cwts. in 1900 to 4,338 cwts. in 1901.

On the other hand, the exports for August rose from 2,206 to 2,914 cwts. for the last two years, the total for the eight months increasing from 25,462 cwts. in 1900 to 28,658 cwts. in 1901; 262 cwts. of the latter were motorcycles. The chief takers of the German goods were as follows:

	1901. Cwts.	1900. Cwts.
Belgium	2,014	2,142
Denmark	3,220	2,736
France	1,462	984
Great Britain.....	2,760	2,100
Holland	4,422	2,954
Austria-Hungary	3,308	3,658
Russia	2,526	2,316
Sweden	2,662	2,832
Switzerland	2,760	2,482

Motocycles as Baggage.

The railroads comprising the Western Passenger Association have finally revoked the previous ruling and decided to carry motor bicycles and motor tricycles as baggage. Formal action was taken by amending the prohibitive clause in which motorcycles were bracketed with automobiles, as follows:

Rule I, Section D—"Motorcycles or motor-tricycles" were, on motion, stricken therefrom in the last sentence, making this sentence read: "Automobiles will not be carried in baggage cars on regular trains."

It is probable that, the "ice having been broken," the other railway associations will take similar action.

Credit for the good work is due wholly to E. R. Thomas, of Buffalo, who has for many months engaged in the task.

RACYCLE'S PROUD RECORD

How Real Aggressiveness Brought Bannier Results and Promises Even Better.

One man who has absolutely no fault to find with the bicycle business was in New York last week—Harry Walburg, manager of the Miami Cycle and Mfg. Co., Middletown, Ohio.

"This has been the best year we've had since we went into the bicycle business," he said in answer to the stereotyped inquiry.

"And the outlook for 1902?"

"It will be an even better year for the Racycle than was this one," Mr. Walburg responded, in the suave, soft spoken tone peculiar to him, and in which there is no trace of brag or bombast. "Our California agent alone tells us he will want 4,000 or more next year; he sold some 2,700 this season."

While Mr. Walburg's confirmation is interesting, the news that he confirmed was not exactly news. Among "insiders," at least, it was already well known that the Miami people had "done the business of the year," to employ a common expression. While the sales of practically all other bicycles had diminished, the Racycle was the exception to the rule; its sales increased, and increased substantially. While exact figures are not possible, it is trade talk that something like 20,000 Racycles were made and marketed, and, to use one of the Miami company's many catch phrases, "there are no cheap Racycles"—a fact to be borne in mind in digesting the figures.

While the gentle voice of Walburg gives no indication of it, it is to the aggressive policy for which he is responsible that the result and prospect are due. Luck has played no part in it; indeed, the Miami company came into the business some three years ago, when the boom had about petered out, and when Luck had hidden its head, and there was chance only for Pluck to succeed. With the necessary pluck and capital, a distinctive bicycle and a head for business strategy, and one which held also a keen appreciation of human nature, it was quickly realized that when the "other fellows" are groggy or dispirited the way to make a "killing" is to strike hard, often and quickly. The Racycle people struck out in just that fashion, and each year there has been more steam behind their blows. While others were faint-hearted or sparring for openings, the Racycle was full of assurance and striking sledgehammer blows.

While others were counting the cost of every circular or postage stamp, the Miami people were spending hundreds of dollars in printers' ink and postage, and supplying their agents with a plentitude of advertising matter that was striking, attractive and convincing. It was of the sort that appealed

to the average man—the straight and not too dignified sort of talk that carried Jerome into the hearts of the New York public and did more than all else to defeat Tammany Hall.

While others were reducing their staff of travellers, the Miami company was increasing theirs. At this moment, for instance, there are twenty-seven Racycle representatives on the road, and ten or twelve others are to follow.

It is this policy that has won the hearts and unwavering loyalty of Racycle agents, and that has given the Racycle itself a sale that is to be envied.

On the occasion of his visit Mr. Walburg said nothing of these matters. He remarked that twenty-seven Racycle travellers are on the road, as if it were a mere incidental. But there was no need for him to remark them. They are known to all who have eyes to see and brains to appreciate.

What Mr. Walburg did say came in response to a chance remark. It was this:

"Oh! I've a deal to learn yet. We've been in the bicycle business but three years, you know."

And he said it as if he really meant it.

OCTOBER'S EXPORT GAINS

Substantial Advances in Nearly all Parts—South America the Weak Spot.

October of 1900 was such a miserable month in the matter of exports that October of 1901 would have had to fall low indeed to become more miserable. Fortunately nothing of the sort occurred, and for the third time this year statistics show an increase, and one that is spread quite generally over the world.

England, France and all Europe, not excepting Germany, made largely increased purchases. Australia and Africa, and again China, appear on the right side of the book. Cuba also increased, but, on the other hand, the Philippines constitute the most noteworthy backslider.

It was only in Brazil, Argentina and the South American countries that little or no progress was made, and there, according to some reports, the Germans are getting in their fine work and cutting the ground from under American feet.

The record in detail for the month and for the ten months ending with October follows:

Exported to—	October—		Ten months ending October—		
	1900. Values.	1901. Values.	1899. Values.	1900. Values.	1901. Values.
United Kingdom.....	\$16,117	\$28,400	\$636,739	\$409,221	\$441,231
France	1,816	3,615	402,896	176,207	179,292
Germany	6,928	10,553	754,551	322,638	186,486
Other Europe.....	14,232	31,881	841,106	599,814	469,402
British North America.....	7,173	6,463	518,020	352,523	282,490
Central American States and British Honduras.....	464	671	4,483	2,064	4,913
Mexico	733	1,235	37,601	12,249	19,015
Santo Domingo.....	.....	10	323	232	812
Cuba	1,235	2,189	77,543	65,133	11,777
Porto Rico*.....	.....	.....	2,478	1,461	.....
Other West Indies and Bermuda....	3,191	4,613	53,743	38,866	42,668
Argentina	1,934	994	258,598	70,231	5,974
Brazil	1,402	345	28,914	16,794	5,391
Colombia	49	37	7,638	3,470	682
Other South America.....	2,457	2,585	55,881	35,424	25,206
Chinese Empire.....	1,679	4,870	19,883	19,645	51,163
British East Indies.....	2,130	1,658	117,486	50,697	46,984
Hongkong	1,250	2	8,234	7,696	3,255
Japan	7,690	7,446	98,245	220,769	196,695
British Australasia.....	8,305	21,547	196,448	177,773	166,117
Hawaii* .....	.....	.....	40,233	32,473	.....
Philippine Islands.....	11,783	1,840	1,281	54,787	28,200
Other Asia and Oceania.....	1,025	3,056	39,495	22,291	19,905
Africa	7,195	22,261	141,304	53,296	83,386
Other countries.....	.....	.....	274	417	282
Totals	\$98,788	\$156,271	\$4,343,397	\$2,746,171	\$2,271,326

*No longer included in statistics.

Hicks Aileges Fraud.

Suit has been brought by Clinton C. Hicks, who is described as a bicycle manufacturer of Rochester, N. Y., against Frank M. Derriek, to recover for an alleged swindle of the latter in selling him for \$1,533 notes of a face value of \$1,762, which it is claimed turned out to be entirely worthless.

Forty Per Cent From Griggs.

It is stated that the creditors of Arthur Griggs, the New Haven (Conn.) dealer who failed a short time ago, will be paid about 40 per cent of their claims.

Nott Makes new Offer.

In his efforts to obtain possession of the factory of the defunct Co-operative Cycle and Motor Co., at St. Catharine, Ontario, W. G. Nott has increased his first offer. This was to rent the factory at \$33 33 a month for a year, with an option to buy it for \$10,000 on the instalment plan. The Finance Committee of the City Council, which holds the property on a mortgage, refused the offer. Now Nott has come forward with another offer of \$90 a month, but the committee is holding out for \$100 a month.

ORIENT BICYCLES

Motor
Cycles
and
Auto=
mobiles

MODELS FOR 1902
ARE NOW READY.

WRITE FOR AGENCY.

The Orient line for this season is a winner.
Eight elegant models ranging from \$30 to \$50.

Hand=
some
New
Catalog
is now
in Press

WALTHAM MANUFACTURING COMPANY

WALTHAM, MASSACHUSETTS

IT'S A TOUGH PROPOSITION

for a rider to go up against a weak, leaky, inferior tire. It's an even
tougher proposition for the dealer who supplied it.

TRUE SATISFACTION, EITHER IN SELLING OR USING, IS GIVEN ONLY BY THE BEST.

FISK TIRES

embody everything desired in a tire. There are none better—few as good.
They give true satisfaction alike to rider and dealer. They are dependable
tires in every sense of the word.

And yet the price is surprisingly low, quality considered.

FISK RUBBER COMPANY, Chicopee Falls, Mass.

BOSTON,
604 Atlantic Ave.

SPRINGFIELD,
40 Dwight St.,

NEW YORK,
83 Chambers St.

PHILADELPHIA,
916 Arch St.

SYRACUSE,
423 So. Clinton St.

BUFFALO,
28 W. Genesee St.

DETROIT,
252 Jefferson Ave.

CHICAGO,
54 State St.

SAN FRANCISCO,
114 Second St.

THE BICYCLING WORLD

FOUNDED 1877
and MOTORCYCLE REVIEW

In which is Incorporated
the "The Wheel" and the "American Cyclist."

Published Every Thursday

By

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Members of the trade are invited and are at all times welcome to make our office their headquarters while in New York; our facilities and information will be at their command.

To Facilitate Matters Our Patrons Should

Address us at P. O. Box 649.

NEW YORK, DECEMBER, 5, 1901.

Out of Despond's Slough.

Slowly, without flourish of trumpets or fuss of any kind, the British cycle trade is emerging from the disasters that have afflicted it of late.

The betterment that has taken place has been referred to in these columns on more than one occasion, but in general terms, and without the particularity that the matter really deserves.

As the boom—meaning thereby the financial boom quite as much as the riding boom—rose high in the late Queen's domains, so the slump that followed it was almost terrifying in its extent. Scarcely a firm was exempt from its paralyzing effects, and ruin stared in the face even those concerns which weathered the first blasts of the storm.

Matters looked worse than they really were. There was an undeniable falling off in riding, and, as a matter of course, in sales. But, as events have proved, it was only a temporary disfavor that the cycle had

met with, and the years immediately preceding should have provided the sinews of war which could have been drawn on for sustenance during the lean years.

This was about the last thing thought of, however. When the storm did burst it found the trade entirely unprepared. Capitalizations already high enough had been "boosted" to figures so gigantic as to be ludicrous. To make matters worse, factory processes had undergone little or no improvement, and rule o' thumb methods or slow and expensive hand work still ruled in a large majority of factories.

In the years that followed the bursting of the boom, say from 1898 onward, many bitter lessons were learned, and there were dissolutions and reorganizations and retrenchments all along the line.

In the fulness of time the tide has changed, and where there was formerly nothing but doubt and despair hope now reigns.

The present year has been an extraordinarily good one, judged by the standard of the immediate past. In fact, comparison with even the boom years is not altogether disgraceful.

All through the last season the same story was told of renewed interest in riding. People of all classes took to the cycle and wheeled to business and on pleasure bent; everywhere the highroads and the byroads were covered with the gliding wheels, and contentment was observable on all sides.

The result is reflected in the company reports which form such a peculiar feature of the British trade. Almost without exception they have been of the most encouraging character.

Concerns that had been able to show slight profits during the trying years increased them; others that had reported adverse balances, each one being worse than its predecessor, were seen to have "turned the corner," and they faced their stockholders with profits in place of deficiencies.

Three notable examples best show this tendency. The Humber, the Raleigh and the New Rapid companies had looked ruin in the face. The second named concern had been through the bankruptcy court, and the other two had narrowly escaped following its example.

A year ago in the one case, two or three years in the others, it would have been a rash man who offered ten cents on the dollar for any of the three concerns.

To-day they are dividend payers, each able to show a substantial profit on the last season's trading, and with futures that range all the way from encouraging to exceptionally bright.

These instances are typical of the trade. No concern of reputation, unless its resources are utterly dissipated, has aught to fear from the future. Wise management linked to progressiveness is sufficient to insure its continuing on a dividend paying basis.

We can afford to rejoice in the prosperity that has visited our transatlantic neighbors, even although mingled with that pleasant feeling there is regret that in this country the returning pendulum has not swung far enough to begin to lift the iron hand that has been pressing down our own trade for so long.

Difficult but Imperative.

Few things are more difficult than to calculate costs correctly.

If, as statistics show, 95 per cent of business houses eventually fail, it is probably within bounds to say that 50 per cent of them are brought to this unfortunate ending by the failure or inability to learn just what it is costing them to transact their business.

The remark is true of all classes of business men. The repairman, no less than the dealer or the maker, imagines he has a comfortable margin of profit left after deducting his running expenses; but if he probed the matter to the bottom he would find that the contrary was the case, and that this explained his failure to get ahead.

The most difficult item is, of course, that of overhead expenses. That is the stumbling block of many otherwise well conducted businesses. What appears to be a generous amount to charge off against this item often turns out to be absurdly inadequate. It is frequently so large that it frightens the calculator, while at other times, with every desire to get at the truth, he fails to take account of items that cannot be left out without vitiating the whole scheme and rendering the calculation worse than useless.

Of course, no man or firm can go on indefinitely neglecting cost calculation. The cycle trade has been through the fire, and that portion of it which remains has comparatively little to learn regarding the manufacture, sale or repair of cycles.

But with the motor bicycle coming on apace there will soon arise a necessity for the application of the same processes there

that were so successful in the case of the bicycle.

Nothing else than this will demonstrate how the handling of the new machine can be made profitable.

The Trade and the L. A. W.

Of the forces that contributed life, enthusiasm and advertising to cycling, and thereby contributed to the health and well being of the cycle trade, the League of American Wheelmen was a mighty one.

The clarification of time makes the fact more apparent to-day than it was a year ago or five years ago.

When the League waned the trade waned, or the case may be expressed the other way: When the trade waned, the League waned. In either event, the result was the same.

In the upbuilding of the L. A. W. the trade, or, rather, the people of the trade, played leading parts; when it was builded the organization repaid the debt, not in actual dollars and cents, but in the cycling interest and enthusiasm which it promoted, fostered and spread wherever there were roads upon which bicycles might be ridden, and the harvest in the form of orders was garnered by the trade.

We all know the way that trade has gone. But what of the League?

Unsung and almost unhonored it is rarely heard of; it seems little more than a memory of long ago. What of the League? Let these extracts from a personal letter from one who had recent occasion to institute inquiry answer:

"The good old League is in grave danger of becoming a mere sentiment. On November 1 it had but 12,000 members. From the appearance of things it will be fortunate if it has 6,000 next November. The loyal old secretary is alone in his little office, without a clerk, without so much as an office boy. If he is not heart sore, he certainly looks it.

"The official organ may still exist for all I know. I have not seen a copy for months. I never hear of it. I have forgotten what it looks like. Where it goes or what it is doing for the L. A. W. is more than I can guess. Indeed, if anywhere there is any one doing anything or making to do anything, only a detective with a keen scent can discover.

"The State divisions are getting most of the little money that comes to the mill. What are they doing with it or for it? Some one should make it his business to find out. From what little I can learn, it is going to a few salary grabbers. I hear that in one of

the larger divisions the salaries actually exceed the income.

"Are there not a few strong men in the trade who have left enough of the old love for the League to help it out of the ditch? Cannot the *Bicycling World* itself aid in its rescue? The L. A. W. did so much and stood for so much, and stands for so much, that it is pitiful to see it shrivelling when it could be made a factor for good and a force in the regeneration of cycling that cannot be far removed."

This communication speaks for itself. It is a recital of facts as they are obtainable. Were the men of the trade to actively interest themselves in the L. A. W. we believe a livelier interest and, perforce, a livelier trade would result. It is in line with our contention that makers and dealers made a grievous mistake in casting loose from and becoming totally indifferent to clubs and other organizations and enterprises that made for cycling enthusiasm and the advertising of the bicycle. Whether at this time any one in the trade will be or can be moved to become reinterested in the League is another question. As for the *Bicycling World*, it is ready to do its part; its columns will be reopened to the L. A. W., and some attention devoted to its affairs.

The fact that the corresponding organizations in England and in France are able to muster some 75,000 or 80,000 members shows that there is more than one screw loose in the League of American Wheelmen. It is our opinion that the entire structure requires remodelling on new lines. State distinctions must be eliminated, or at least be made subservient to the national interests. Salary grabbers must be forced into retirement and the money placed where it will do the most good. Apportioned as it now is, it is like a knife of butter spread over 45 loaves. There is not enough of it to give any one anywhere a real taste or to accomplish anything at any time.

The fact is so apparent that when the National Assembly meets in February it should force itself on the assemblymen. It may require that many or most of them be shorn of titles or perquisites, or both, but they should play the part of men and for the best interests of the organization they should centralize the power and knit the thin and threadbare State lines into a league that will be national in name, in fact and in strength.

For the Winter Season.

It is no longer the fashion to wrap one's

cycle up in cheesecloth and put it away for the winter. That was the proper thing to do a dozen years ago, and nearly all good cyclists did it. Nowadays it is stored away in any old place, in just such condition as the last ride left it. When spring comes around it is dug out, dusted off a little and pronounced ready for another season's riding.

All this is but natural, of course. One cannot be expected to treat an old suit of clothes as tenderly as if it were still new, and the bicycle has become such an old tale that it must come in for a certain measure of neglect.

There are still riders, however, who give their machines a portion of the care they used to lavish on them. They clean the nicked parts and protect them against rust by covering them with some of the many special preparations intended for such purposes, or even with just plain oil. Then they cover the entire machine with sheeting or burlap and hang it up in some little frequented place. The suspension part of the performance is for the purpose of taking the weight off the tires, thereby removing a too great tendency to crack.

These operations take but little time, and can be performed by any one. The machine is certain to emerge from its retirement in the spring in better shape than it would otherwise be.

One of the bicycle agents who stampeded to the automobile trade writes an ex-cycling journal that helped along the stampede that he "prefers a paper giving about four lines on motor topics to one line about bicycles." As the journal in question publishes about fifty lines of one to one line about the other, the agent's letter is printed presumably to convince the cycle trade that the medium that has contributed to such a happy result (from the automobile standpoint) is entitled to the cycle trade's support.

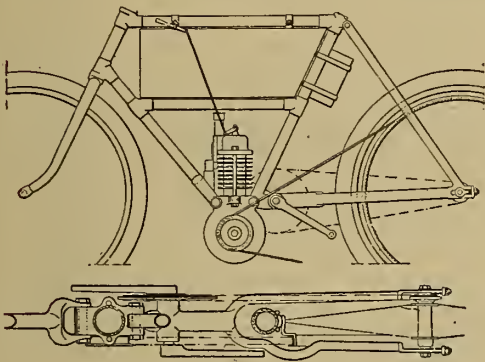
Our Melbourne letter makes plain that Australian eyes are opening wide to the doubtful beauties of "tariff protection" with which American eyes have been so unpleasantly familiar during these many years. But, as Australia has few, if any, "infant industries" to protect, the term "protection" is even more farcical there than it is here, where our "infants" wear beards and use alleged statesmen as their playthings and speaking dolls.

WERNER'S 1902 MODEL

French Pioneer Departs From old Ideas and Develops Some Striking Originalities.

The Werner motor bicycle, the French creation which was the first to be placed on the market in commercial quantities, has been radically altered, as the accompanying illustration attests.

Instead of the engine being placed in front of the steering head and driving the front wheel, it is now vertically set in front of the bracket, and drives the back wheel by means of a belt. In outline the frame is very similar to the frame fitted on a pedal-propelled safety, but the pedal crank bracket is some three inches behind the diagonal, and the diagonal itself is devoted rather to the efficient staying



of the motor than to the holding up of the bracket alone. Where the bracket would usually be there are a couple of eyes, to which the motor is bolted, and it is then secured to the front frame by a tube, which runs from the bottom of the steering socket, and is then forked, so that the motor, which is thus a part of the frame, is securely bolted to the frame itself at its four corners.

The engine is exactly half way between the two wheels, and the whole of the crank case is below a horizontal line drawn through wheel axles, so that the engine is close to the ground and the centre of gravity kept very low. The pulley on the cycle wheel is not bolted to the spokes, but to the rim. Owing to the motor being placed well forward of the bracket, there is sufficient room for a good long driving belt to be used without any necessity for an idler. The tank, accumulators, etc., are carried in a large case, filling up all available space in the front bay above the engine, while the coil is elamped behind the diagonal, and owing to the elongation of the wheel base backward there is plenty of room for it without it fouling the rear mudguard. A new pattern of atomizer is fitted in place of the surface carburetter. The fuel tank holds sufficient for a hundred mile run, and there is plenty of room to fit an additional reservoir at the back if necessary.

A Fool and His Money.

By W. K. THOMAS.

(Advertising Manager Miami Cycle and Mfg., Co.)

Pap went down tuh th' postoffice
At the crossroad grossry store,
An' brung hum a tew pound catelog
Frum a cheap mail order store.

It wuz jist chuck full o' picters,
Ever'thing under the sun,
That they don't make, nur keep in stock,
Though they sells 'em cheap, by gum!

Pap ordered a pair uf hosses,
Mam got a sewin' machine,
Sal bought her a parler organ,
An' Bob a talkin' machine.

But yur Willie he wuz foxy,
To put dealurs in a pickle,
He jist sen's up and orders him
A high grade Snide bicickle.

Pap put a mortgage on the farm,
An' rais'd sufficient money
To pay fur them air C. O. D.'s,
They turned out gol durn'd funny.

* * * * *

That parler organ's sprung a leak,
Pap's hosses both had spavin,
The phunnygraph has got sore throat,
Mam's sewer ain't worth havin'.

But, say! of all the durndest things
Uf painted tin or nickel
Is that air lot of worthless junk
I bought fur a bicickle.

Fust time I rid her down the pike
She went just like a rocket,
But when I got tew miles from hum
I busted the hind sprocket.

I writ 'em fer another one,
And they sent back a letter
A sayin' they wuz out, jist then;
If I could wait, I'd better.

I waited fer three months or more,
Then pap's lawyer up an' writ;
That fetched 'em, an' they sent one down,
But the blamed thing wouldn't fit.

At last I bought a new hind wheel,
But it warn't a bit of use,
For every time I took her out
Something jist would break loose.

I spent ten dollars fer repairs,
But now I've got to chuck her.
That guarantee they advertise
Is bait which lands a sucker.

Cyclists Sue for Damages.

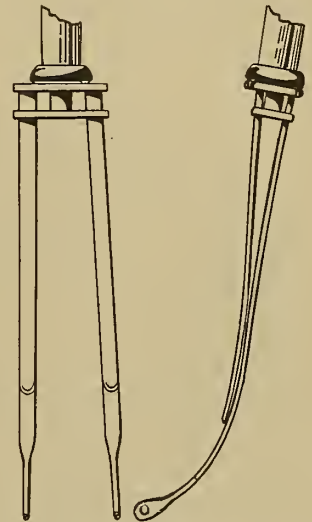
Two suits, one by Albert G. Anthony for \$15,000, and the other by James V. Kelley for \$10,000, have been entered against the city of Syracuse, N. Y., for damages due to falls from bicycles, caused by defective street pavements. Anthony alleges that injuries incurred to head, body and limbs necessitated the performance of two operations, with another one probable. Kelley's hurts were of the left leg.

PIERCE'S SPRING FORKS

Buffalo Makers Bring out Something Radically Different From all Other Types.

It is a long time since the American trade has seen anything in the shape of a spring front fork, and the one brought out for the 1902 season by the Geo. N. Pierce Co., Buffalo, N. Y., possesses undoubted novelty.

Into each side of a two plate fork crown, the plates having very square corners, are fitted and brazed two pieces of flat steel about $\frac{3}{4}$ inch wide and $\frac{1}{8}$ inch thick. The lower one extends from the top of the crown to the front wheel axle, being curved forward sharply about three-quarters of the



way down, while just below this point it is twisted around so that the edge of the steel forms the fork end, being drilled for the axle in the usual manner. The second or upper piece of steel joins the first one at the curve, and rests on it in the same manner that one leaf of a carriage spring is laid on another. Between the two is inserted a small piece of felt, the object being to stop all rattle.

Laterally the fork is extremely rigid, while fore and aft there is considerable spring, the latter being obtained apparently without interfering with the steering in any degree.

Sundry Worth Pushing.

With the increased and increasing interest in cushion frames, spring frames, spring forks and the other contrivances that contribute to cycling comfort, the spring seat post is, in the very nature of things, due for a substantial advance. Its price will appeal to many who cannot afford or who do not desire the other devices; in fact, there are few more deserving of the agents' attention or which promise greater sales. The conditions make it pertinent to add that the Smith spring seat post, made by Joseph N. Smith & Co., of Detroit, is certain to obtain its full measure. As one of the first, if not the first, on the market, it has a record of service that is not to be denied.

STOPPING AND SKIDDING

Easy to do Either With the Coaster-brake
—A Prediction.

"One's appreciation of an admittedly good thing is increased by deprivation—no matter how short—of it, don't you think?" asked the oldtimer, who is of a speculative turn of mind.

The Bicycling World man agreed with him and waited for the yarn he felt sure was coming.

"It's the coaster brake this time," the first speaker continued. "I can never quite get used to its excellences or cease to congratulate myself on being one of those riders with sense enough to appreciate it. It has always been a source of pride to me that I recognized its merits when it first came out in its present form; and have ever since used it consistently.

"Tempted by the exceptionally fine weather last Sunday, I got my wheel out of its winter quarters and started for a little ride—the first I had had since the cold weather set in.

"It took an effort to dig it out, but I am confident that if other old riders had done the same thing they would have been amply repaid for their trouble. Such a glorious day it was! And with roads that were at their best—hard and smooth, free from dust, and with just a hint of moisture here and there where the frost was coming out of the ground under the influence of the genial sun.

"Well, I dawdled along, taking the rises at a good, steady pace, and shooting down the grades, feet motionless and wheels flying. It was not easy to say which was the more enjoyable, the coasting or the pedalling; I indulged in both with almost equal pleasure.

"On the way home I took to the sidewalk for a short distance, and was bowling along carelessly at a good pace when I saw a break in the walk. Instinctively I pulled sharp to the left to avoid it, and almost banged into a tree that I had not noticed and which was standing almost directly in my path. Just how it happened I don't know, but I back-pedalled sharply and almost at the same moment threw myself from the machine. The effect was somewhat startling, for the back-pedalling applied the brake so sharply that it skidded the rear wheel and brought the machine to an abrupt stop; and I need not have jumped at all.

"It pleased me mightily to know that in an emergency of this sort my first thought was to apply the brake by back-pedalling. It had bothered me when I first changed over from the fixed gear, and I found that it required a moment's thought before I could tell just what was the proper thing to do when I wanted to stop suddenly. But here I was back-pedalling by instinct, just

as we all learned to do on the fixed gear.

"The skidding of the rear wheel also gave me food for thought. During the balance of the ride I tried it two or three times, and always with the same result. By throwing my weight on the rising pedal I could lock the rear wheel without the slightest trouble; and of course the machine stopped instantly. It was very much more effective than back pedalling, and it did not take one-quarter the exertion.

"When you come to think it over, it is difficult to say which should be awarded the palm—the coasting or the braking feature of the device.

"But one thing is certain: The coaster brake is a long step forward, and one that is not appreciated at anywhere near its real value. Some day the cycling world will realize what a blessing the device really is, and then it will be lauded to the skies, hailed as a new pneumatic tire. You stick a pin in this prediction, and some day I'll remind you that I made it."

The Bicycle's Soliloquy.

"I was the rage. Men forsook sweethearts and wives to follow me. Women neglected children and homes to swell the ranks. My name was on all lips. My praises were sung wherever the race congregated. The English language was shaken to its foundation and readjusted to do me honor. I grew in self-conceit.

"Verily," I said, "I am the whole thing. Society lives but in my smile. I am arbiter of the social destiny of maidens. Through me only can the summer man star triumphantly. I have subdued the chaperon, and toppled her from her throne. I have improved the country roads. I have given a black eye to the oft-sung horse, who is a slow and awkward beast at best, and undeserving of his reputation. Children cry for me. Old age cannot endure without me. I am Alpha and Omega. In fact, to quote the gentleman whom I occasionally see upon the billboards, 'The world is mine.'"

"But at length there came a day when society began to withhold its smiles, and then did I appear likely to suffer from chilly isolation, but I turned to a few friends of better days who had watched my flight more in sorrow than in anger. And all was well. So to-day I rank as a sober, steady thing, with but 'an occasional lapse from grace'; I am the friend of the family, have comfortable quarters in city homes, and am an indispensable adjunct of country life. I am no longer the fad, do not dominate society, but lead a useful and comfortable existence in the odor of respectability."—(Adapted from the Idler.

"The First Light" is the subject illustrated by the Hine-Watts Mfg. Co.'s 1902 calendar, which is now ready for distribution. It pictures an awe inspiring scene of the Stone Age, the livid flame apparently belching from the bowels of the earth and casting its glow over the watching natives. The Columbia gas lamp is, of course, illustrated as an incidental.

RESOLUTIONS FOR RETAILERS

Suggested by one of Them—"Do it Now"
the Keynote of all.

What short phrase can be of more importance in the saving of money and trouble in the career of the ordinary business man than the one, "Do It Now"? Is there any merchant who, as he reads the phrase, cannot recall to his memory numerous incidents that occurred where money could have been saved if he had taken the prompt action implied in our subject? It is doubtful, says one who has "been there." Therefore:

If your stock of a certain article is running low and you think it time to order more, don't wait until the last package has been sold and another customer in the store for the same article who must be dismissed with the phrase, "Just out." Don't delay until such time, I say, but send your order and "Do It Now."

Some line of goods you purchased may not meet with the approval of your customers, and therefore it remains upon your shelves. You think it time it should be placed upon the bargain table to be turned into ready cash. Don't put off this necessary action until the goods become unsalable—turn your thoughts into actions and "Do It Now."

If your window display has been greeting the eye of the public for the past three months or more, and you think a change would do it good, don't delay; follow up your thoughts and "Do It Now."

When a customer in haste gives you an order at the door, don't trust to your memory to remind you of that order at your leisure, but make a memo of it, and "Do It Now."

If a shipment of goods arrives, don't leave the checking of it until to-morrow, but "Do It Now."

If you advertise in the daily newspaper, to obtain best results change your advertisement every day. Don't let the same copy appear from day to day until several weeks are past. Consider the possibilities of extra business from changing an advertisement, and "Do It Now."

If a draft from your wholesaler is presented, don't think it nerve on his part asking for your acceptance; but if you can possibly fulfil the requirements of the draft accept it, and "Do It Now."

If a note soon falls due for which you haven't sufficient funds on hand at present to meet its requirements, don't delay making preparations to fulfil your obligations. Make a start to collect some of the outstanding accounts, and "Do It Now."

If your delivery system fails to get customers' goods to their homes at the promised time, which causes customers to complain, don't wait until your complaining customers are dealing at the place across the way before making the necessary change, but "Do It Now."

Don't let unscrupulous travellers, by holding out tempting offers, persuade you to overload yourself with slow selling merchandise. The chief evil arising from overstocking, financial embarrassment, may perchance overtake you. Make up your mind once and for all that you will only buy in quantities to suit your trade, and "Do It Now."

NATIONAL BICYCLES

FOR 1902 are a proposition which no dealer who wants a first-class bicycle can afford to overlook. Our travelers are in the field with the best line

of bicycles we have ever put out. They will be profitable to the dealer and more than satisfactory to the rider. If you want that kind of a bicycle as your leader, please write us to-day. We don't make the "cheap kind."

"Good Bicycles Only"
IS OUR MOTTO.

NATIONAL
CYCLE MFG. CO.
BAY CITY MICH.

BUT TWO CLASSES OF BICYCLES REMAIN—

Those equipped with Persons Saddles and those with alleged "just-as-goods."



The bicycles, like the saddles, speak for themselves. The Persons saddle has always distinguished the high-grade bicycle. In the year 1902 the fact will be made more apparent than ever. They all want Persons saddles, and those who value their reputations are getting them in increasing numbers.

WHEN A BICYCLE MANUFACTURER TELLS YOU

that his bicycle is equipped "with the best that money can buy," just "try him on" with a Persons and get your money's worth. The leather top of the Persons alone costs us more than the entire saddle of the "just as goods."

PERSONS MFG. CO., CHAS. A. PERSONS, Pres't, WORCESTER, MASS.

1902 ANNO

AMERICAN BICY

We are ready to quote prices and complete arrangements

STANDARD AGENTS

COLUMBIA	CLEVELAND	CRESCENT
TRIBUNE	WESTFIELD	IDEAL

SPECIAL LINES OF BICYCLES FOR THE JOBBING TRADE.

Travelers are now out with samples and a proposition to dealers that is exceedingly interesting.

For prices, catalogues, exclusive sale or other information address :

American Bicycle Company
EASTERN SALES DEPARTMENT
152-154 Franklin St., NEW YORK

Controlling—Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New Jersey, Delaware, Maryland, District of Columbia, Virginia, North Carolina, South Carolina, Georgia, Florida, Pennsylvania, east of but not including Potter, Cameron, Clearfield, Cambria, and Somerset Counties; and New York east of, but not including, Monroe, Ontario, Yates and Stueben Counties.

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MONARCH

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VEDETTE

FAY (JUVENILES)

Everything that is new and desirable in bicycle construction is embodied in our 1902 models.

American Bicycle Company
WESTERN SALES DEPARTMENT
 497-501 Wells St., CHICAGO

Controlling—Pennsylvania west of, and including Potter, Cameron, Clearfield, Cambria and Somerset Counties; New York west of, and including Monroe, Ontario, Yates and Steuben Counties; West Virginia, Kentucky, Tennessee, Alabama, Mississippi, Ohio, Indiana, Illinois, Michigan, Wisconsin, Minnesota, Iowa, Missouri, Arkansas, Louisiana, North Dakota, South Dakota, Nebraska, Kansas, Oklahoma Territory, Indian Territory, Texas, Montana, Wyoming, Colorado, New Mexico, Idaho, Utah.

American Bicycle Company
PACIFIC COAST BRANCH
 451 Mission St., SAN FRANCISCO

Controlling—Washington, Oregon, California, Nevada and Arizona.

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Ontario, Yates and

1902 ANNOUNCEMENT

AMERICAN BICYCLE COMPANY

We are ready to quote prices and complete arrangements for the exclusive sale and territory of the following:

STANDARD AGENCY BICYCLES.

COLUMBIA	CLEVELAND	CRESCENT	RAMBLER	MONARCH	IMPERIAL
TRIBUNE	WESTFIELD	IDEAL	HARTFORD	VEDETTE	FAY (JUVENILES)

SPECIAL LINES OF BICYCLES FOR THE JOBBING TRADE.

Travelers are now out with samples and a proposition to dealers that is exceedingly interesting.

For prices, catalogues, exclusive sale or other information address:

American Bicycle Company
EASTERN SALES DEPARTMENT
152-154 Franklin St., NEW YORK

Controlling—Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New Jersey, Delaware, Maryland, District of Columbia, Virginia, North Carolina, South Carolina, Georgia, Florida, Pennsylvania, east of but not including Potter, Cameron, Clearfield, Cambria, and Somerset Counties; and New York east of, but not including, Monroe, Ontario, Yates and Stueben Counties.

IN connection with our bicycles we shall carry a large and complete stock of

Sundries

such as

Bells, Lamps,
Pumps, Tires,
Rims, Spokes,
etc., etc.

Everything that is new and desirable in bicycle construction is embodied in our 1902 models.

American Bicycle Company
WESTERN SALES DEPARTMENT
497-501 Wells St., CHICAGO

Controlling—Pennsylvania west of, and including Potter, Cameron, Clearfield, Cambria and Somerset Counties; New York west of, and including Monroe, Ontario, Yates and Steuben Counties; West Virginia, Kentucky, Tennessee, Alabama, Mississippi, Ohio, Indiana, Illinois, Michigan, Wisconsin, Minnesota, Iowa, Missouri, Arkansas, Louisiana, North Dakota, South Dakota, Nebraska, Kansas, Oklahoma Territory, Indian Territory, Texas, Montana, Wyoming, Colorado, New Mexico, Idaho, Utah.

American Bicycle Company
PACIFIC COAST BRANCH
451 Mission St., SAN FRANCISCO

Controlling—Washington, Oregon, California, Nevada and Arizona.

ANNOUNCEMENT.

Wolff=American^{and} Regal

Bicycles for the season of 1902 are now ready. These well-known lines of wheels are replete with new and meritorious features.

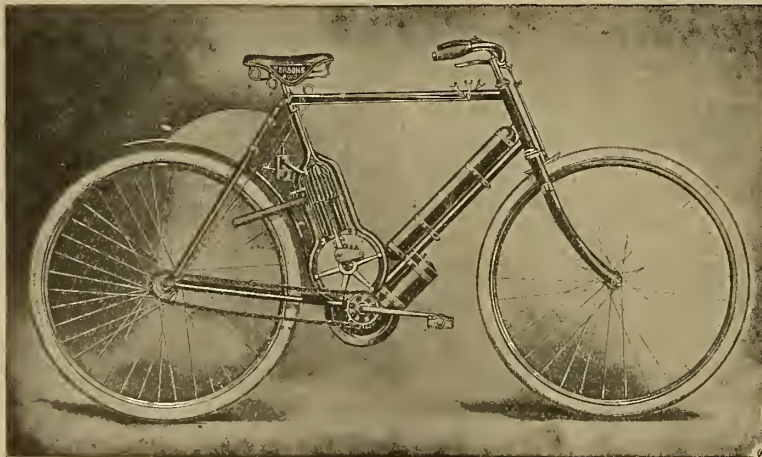
Our salesmen are on the road showing new models and offering a proposition that is *right*.

It will afford us pleasure to hear from dealers who are interested.

STEARNS BICYCLE AGENCY, General Distributors, **Syracuse, N. Y.**

.....ROYAL.....

IT LEADS THEM ALL; IT COULDN'T HELP IT IF IT WOULD !



THERE WILL BE BUT
ONE MEMBER OF THE ROYAL FAMILY
 IN EACH TOWN

and he will do less talking to sell motor bicycles than any other half-dozen merchants in his community.

IS THIS HINT ENOUGH FOR YOU ?

ROYAL MOTOR WORKS,

-

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-

Chicopee Falls, Mass.

FILIPINO INGENUITY

Yankeeification of Islands Stirs Native Brain —Homemade Bicycles Result.

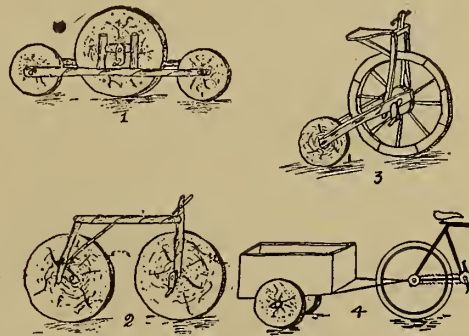
Of the wonders worked by American occupation of the Philippines, nothing is of more promise than its stimulation of native ingenuity and energy.

When Manila was first possessed, men on the spot wrote home that bicycles were about the last things that would appeal to the Filipinos: not only were the roads too vile and the climate too hot, but the natives, these correspondents asserted, were too indolent, ignorant and generally benighted to become interested in anything suggesting physical effort. That the prophets were wrong the shipment to the islands of nearly \$100,000 worth of American bicycles is sufficient evidence, and that even the poor would have such bicycles, did their means permit, the accompanying illustrations indicate. A Philippine correspondent of an exchange vouches for the statement that they are faithful reproductions of handmade bicycles that he himself has seen in actual use. That they would do credit even to the famed ingenuity of the Yankee boy is not to be denied. Many tools and other articles have been imitated in the same crude fashion, indicating that the Filipino mind is not as dark or the hands as lazy as preconceived opinions had pictured. A handsaw, his bolo knife and a hammer, consisting of a stone tied with rawhide to the end of a stick, are the native's chief implements.

Of the contrivances illustrated Figure 1 is a crude representation of what might be termed a "dandy-horse." It is constructed with a centre wheel cut from a log of wood. This disk is sawed out by hard work with a handsaw. Usually two men are engaged at the handsaw, and they work steadily until the disk is sawed off. One advantage the natives have is that the selection of wood is ample. They can secure the best species of hardwoods in the forests, and some of the close grained woods are of superior firmness and quality for the service. Then the wheels of smaller size are cut from logs of less diameter, and the framework of the contrivance is next planned. The holes for the shaft in the wheels are either bored out with crude tools or burned out. The frame is sometimes of bamboo, while again it may be of hard split wood. Then the little crank is put on the shaft of the middle wheel, and the native trains himself to run this crude vehicle by propelling it with his feet. He stands erect and has to be an expert at the work. After he is accustomed to the device he can get over the roads at moderate speed. He steers by bending over one way or the other. Figure 2 is another form of bicycle made by the native. Two wheels of the same diameter are sawed out of a log, and a frame constructed with pieces of bamboo. Then

the crank is put upon the shaft of the front wheel. In this the native uses the top of the frame for a seat.

Figure 3 is a bicycle which a native made from the pattern of an old type of bicycle which he saw in a Spanish newspaper. He followed the general plan very well, but, having no metals with which to work, constructed all of the parts of wood. The front wheel is made of sections of bow shaped pieces of wood, sawed out, one at a time, with a handsaw. How long it took to make the bicycle is not known, but labor counts for little in the Philippines, as carpenters and mechanics of the native race earn only about 20 cents per day. This wheel was not protected with a metal rim, but the rim sections were well secured, the ends mortised, and the whole affair remained secure. The hub is a section of hardwood, bored for the shaft, which is metal. The cranks are also metal, with studs securely welded on. The rear wheel is a section of a log, and the frame is



all wood. It is a very awkward contrivance, yet the maker managed to do considerable riding over the roads.

The trailer shown in Figure 4 is one a native used in connection with a modern bicycle he had purchased in Iloilo. He was a courier, and as there are no postoffice systems established in the interior, men of this calibre have considerable message carrying to do. This native formerly acted as a runner, and sometimes used a horse. He found a chance to secure a bicycle, and with the trailer he was at last accounts making daily trips from point to point, carrying small packages and messages.

Spring Forks are Plenty.

There is quite a little boom on in English trade circles in the matter of spring forks. Several have already made their appearance, and new ones are constantly being added to the number. The Centaur people have one which is described as being extremely ingenious, and at the same time very simple. The fork sides run from the front axle right up to the handle bar lug, on which they are both hinged. The eyes of the fork crown are much larger than usual, and are lined with thick rubber, which acts as a pad and allows the forks just sufficient play to reduce the hardness of the road shock. At the same time it, of course, greatly relieves the forks from severe local strain at the point where they are united in the ordinary way to the crown, and, further, it reduces the shock on the steering column.

CONFINING AIR

Tires Show Great Improvement in the Respect—An Illustration.

"They say that air is hard to confine, and that the pneumatic tire is a complete failure as a confining body," remarked the old rider.

"In the early days of the air tire this was undoubtedly true. The tire that stood up for a week without requiring an addition to the amount of air still remaining in it was a wonder. We considered it nothing unusual to have to pump up once a day, and this when there was no puncture apparent. No one even thought of complaining if this was necessary, even though the pumps were so crude as to be a vexation of spirit and a test of patience and physical strength.

"All this came back to me the other day when I had occasion to look at one of the tires in my 'stable.' It was on a machine that had not been used for some time, and I was very much surprised to find that it was still almost hard enough to ride. In fact, I could have ridden it, but, preferring to be on the safe side, I gave it a few strokes with the pump.

"Then I was so much impressed by the circumstance that I began to figure out how long the tire had been standing unused. At first I could not tell just how long, but after thinking a while a particular occurrence came to my mind as being associated with this machine.

"A brief calculation placed this occurrence more than five months, nearer six, in fact, distant. It came to me distinctly, and I remembered having pumped the tire up then. It had stood all that time, and, as I said, there was still almost enough air in it to ride it without danger.

"There have been cases where tires have held air longer than this, if memory serves me; but this was one that came under my own observation, and for the truth of which I can vouch."

Nebraskan Retailers Protest.

The Nebraska Retail Merchants' Association, through its executive board, is sending out a circular letter in opposition to the proposed parcels post legislation. The letter defines the sense of the association as opposed to House Bill 6,055, or any similar bill, on the ground that it will permit the mail order houses in the larger cities to control the retail business of the country, taxing all the people to pay the expense of carrying the merchandise at a cost much in excess of the amount of postage charged.

Chicago's Lost Glory Found.

The arrival of "2,500 bicyclettes Americaines de Luxe et de Grand Luxe" is advertised in Paris. Among other things the bicyclettes carry with them the name "Old Glory of Chicago"!!

RACING

The foreign riders who are to take part in the six day race comprise the following: Gougoltz and Simar, France; Chevallier and Fisher, Switzerland; Muller and Le Poutre, Italy; De Roeck and Kerff, Belgium; Fredricks and Zaak, Germany; Hall and McLaren, England; Julius and Lawson, Sweden, and Kermstadt, of Vienna, and Frank, of Belgium. With the exception of the last named teams, all the riders were secured on the other side by McFarland.

The American teams are as follows: McFarland and Kramer; Wilson and Maya, the Pennsylvania team; Furtos and Peterson, the Cleveland team; Walthour and McEachern, the Pan-American team; King and Samuelson, the Salt Lake City team; Newkirk and Munroe, the Southern team; Babcock and Turville, the Metropolitan team; Julius and Lawson, the Swedish-American team; Butler and McLean, the Scotch-American team, and Fisher and Leander. Formidable as this list appears, it will be a harder task than ever for the American riders to retain the honors on this side of the Atlantic, as never before has such a fast collection of European flyers come over.

As a preliminary to the six day race which takes place at Madison Square Garden dur-

ing the week commencing at midnight, Sunday, December 8, a series of races will be run on Saturday, December 7. The main feature of the evening will be a twenty-five mile professional lap race, in which thirty of the leading riders will compete.

Osmont, the French crack, has brought the motorcycle record below the minute mark. On a straightaway course near Paris, and with a flying start, he did the mile in 58 3-5 seconds. He used an 8 horsepower De Dion tricycle. The performance was officially clocked, and will almost certainly be accepted by the French authorities.

Apparently road racing in Australia has dangers all its own. In a recent event from Warnambool to Melbourne (165 miles) one of the contestants complained that "even the magpies tormented us." The birds, he states, "had their nests near the roads, and leaving them, followed us for miles, pecking at us like mad."

It has just been decided by the Automobile Club of France to limit the weight of motor bicycles entered in the forthcoming Paris-Vienna race to 50 kilos., or, roughly, 105 pounds. For these the entrance fee is \$10. Motorcycles—meaning thereby tricycles and quads.—pay \$20, and can range in weight from 525 to 105 pounds.

Press dispatches from Salt Lake City report the death there of W. R. Vaughn, one of the crack professionals of the Pacific Coast. Typhoid was the cause. With Iver Lawson, Vaughn spent several months in Australia, where he did some good work and became well known.

At the Electric Park, Baltimore, November 28, Robert Atkinson won the five mile handicap for motor bicycles in 8m. 22s. There were five starters. In the race between McEachern and a trotting horse owned by A. Fenneman, one heat paced and two unpaced, McEachern won. No time given.

McFarland and Michael arrived here November 26 on the Kronprinz Wilhelm.

Weights Again a Factor.

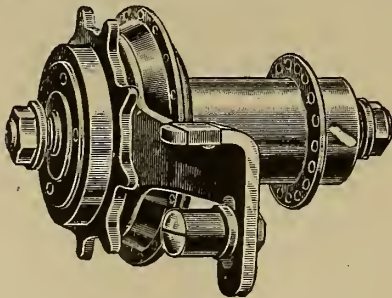
From this distance it appears that 1902 will prove the "lightweight year" in Britain. Certainly, weights have attained the same prominence over there as was the case in this country a few years since. All makers have decreased their weights by several pounds, the limit being reached by one who offers a bicycle fitted with roadster tires, mud guards, brake and "free wheel," the guaranteed weight of which is but 21½ pounds. It would do the American trade no harm did it again devote attention to the subject.

THE SAME FEATURES THAT IMPRESSED THE JUDGES

at the Pan-American Exposition and led them to single out

The Universal Coaster Brake

as meriting the highest possible award
SHOULD APPEAL TO YOU.



IT IS

Our Business

to inform you of these features, and
we will be pleased to do
so at any time.

IT IS

Your Business,

or at any rate, it would seem sound business policy for you to seek just
such information.

UNIVERSAL COASTER BRAKE COMPANY, Buffalo, New York

VALUE OF NEWNESS

How the Trade Fails to Make the Most of What it Really Has.

It is not easy to imagine anything worse happening to a trade than for it to get into a rut—a rut so deep that it would not be easy to get out of it if the effort to do so were made.

When the effort is not made, when the trade appears to be unconscious of the fact that it is rut-bound, the matter is very much aggravated.

There will be little dissent from the assertion that the cycle trade is in such a condition, and has been for some years.

But to go further and say that the trade is standing in its own light in not leaving the rut, that it is doing more to prolong the "slump" than everything else combined, is to invite protests and denials.

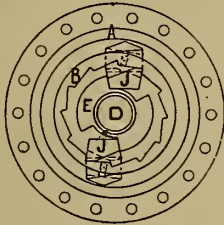
"What's the use?" some will say. "We could not sell any more machines if we did

who never tasted the joys of such a mount as could be offered to them now.

To the reliability, durability and ease of running of the modern bicycle there can be linked features that would prove a revelation to most of the riders referred to—features valuable when taken singly, eye opening if grouped.

Who can doubt that the coaster-brake, the cushion frame, the chainless, to mention only the principal features available, would carry off his feet the rider who has abstained from cycling for the greater part of half a dozen years?

It may be said that such machines are offered, that no changes of pattern are necessary; and in the strictest sense this is not very far from being true.



Section AA—Pedaling Forward.

make changes. Besides, they would add to the cost of construction, and that is a thing we could not think of doing at the present time. Wait until there is some improvement, and then we'll take action."

This supineness on the part of a once aggressive, energetic and progressive trade is a change of front that was made only a comparatively short time ago.

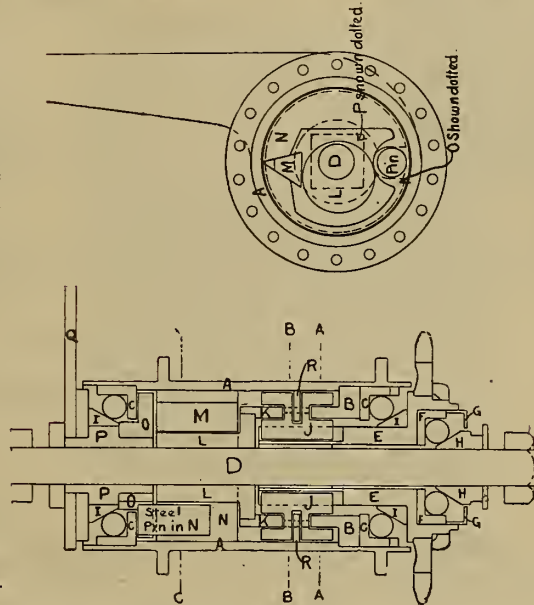
In former years entirely different tactics were pursued, and success crowned them to an unusual degree.

Stagnation was never allowed to set in; it was detected before it had made any great progress and put to rout in short order.

There was always something new being presented to riders. Their interest in the new patterns was maintained from time to time, and at frequent intervals epoch-marking features were brought out and exploited to the greatest possible advantage. Interest was maintained or revived, and to count the cost of such revival was about the last thing thought of.

It is doubtful whether, excepting only the safety and the pneumatic tire eras, there ever existed a better time than the present to bring forth and push with the utmost vigor entirely new patterns.

There are hundreds of thousands of riders



Longitudinal Section.

MECHANISM OF THE BARWEST.

But little or no effort is made to inform old riders of these facts.

There is no aggressiveness displayed in preparing and presenting machines that are a long way in advance of those that were in vogue during the height of the boom.

Consequently few people realize that great improvements have been made and that they can procure machines infinitely superior to anything they ever used before.

To rouse them from this lethargy, to convince them that the bicycle has not stood still, is a task worthy the efforts of any progressive concern.

Motor Bicycles for Game Wardens.

Dr. L. E. Foulks, fish and game warden for the State of New Jersey, is a motor bicyclist who has shown the capabilities of the machine for practical use. In three months he has covered 2,000 miles on an auto-bi. His official duties, he says, call him to many strange places and over roads that are almost impassible, but his bicycle has never failed him and has proven equal to every call made on it.

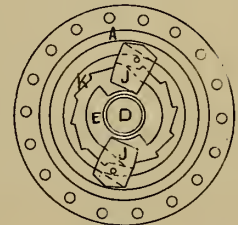
HOW IT OPERATES

Wherein the Barwest Differs From Other Coaster Brakes—"Insides" Exposed.

With the outward appearance of the Barwest coaster-brake the trade and public are by this time pretty familiar. But its interior, while decidedly more interesting, is much less understood.

The accompanying cuts supply this deficiency and give a very clear idea of the mechanism of the device. The longitudinal section shows the location and functions of the various parts, while the end views perform the same service for the parts in action during the operations of forward and back pedalling.

The sprocket wheel is carried by the piece E, which is grooved at its end, as shown in sections AA and BB. The dogs J fit loosely in these grooves; B is the drive clutch, and is fast to the hub of the wheel. K and L are fastened together as one piece, L being an eccentric, M a wedge and N the friction



Section BB—Pedaling Backward.

drive. The dogs J are pivoted in slotted holes in the ring R, and are of such a shape that when rocked about these pivots in one direction by the piece E, as in pedalling forward, they grip the drive clutch B, as shown in section AA, and when rocked in the other direction by the piece E, as in pedalling backward, they grip the piece K, which causes L to revolve and force the wedge M outward, thus expanding the drive N and causing it to come into frictional contact with the inside of the hub, as shown in sections BB and CC. The drive N is kept from revolving with the hub by the steel pin which rests in the slot in O, as shown in section CC.

The piece O has a square hole in it, which fits over a square end on P, and P, having also the other end square, fits into a corresponding square hole in Q, which is kept from turning by being fastened to the frame of the wheel.

It will be noticed that the brake friction is in the centre of the hub, instead of at the end. There is no tendency to pull the wheel out of true, therefore, when the brake is applied; instead, the force comes between the hub flanges and does no harm.

Edward A. Nelson, the well known Springfield, Mass., dealer and ex-manufacturer, is a candidate for Councilman.

Columbia Automatic Gas Lamp

FOR

Bicycles, Buggies
and Motor Vehicles.Special Dash Bracket, which
can be inserted in place of
Bicycle Bracket.

Height 5½ inches.

Weight 18 ounces.

EXCLUSIVE FEATURES

The result of years of experience and experiment in Acetylene Gas Lamps, and of two years of unparalleled success.

Positive automatic water feed, i. e., the water feed is positively controlled by the gas pressure, which is regulated by a gas cock.

No carbide wasted. Charge can be used repeatedly until exhausted, the same as in an oil lamp.

Lights at once. Turns down or out at once.

Gas generated at low pressure, thus avoiding danger common to high pressure lamps.

Uses one-half the carbide necessary in a large lamp, and gives as good a headlight as the best.

Carbide cup is as easily charged and cleaned as a tea cup. Mechanism strong and mechanically correct.

5000 of these Lamps in use on buggies, carriages and motor vehicles in Chicago this year.

OUR GOODS ARE SOLD ON THEIR MERITS ALONE
IT IS NOT NECESSARY FOR US TO OFFER PRIZES.

We maintain prices. We carry the stocks ourselves and Jobbers who purchase from us can return all surplus of unused lamps, which are marked (Model C) to us at the end of the season.

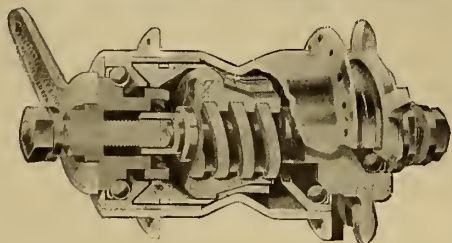
Fine Art Calendar for 1902 mailed free to the trade on receipt of letter head.

HINE-WATT MFG. CO.,

60 WABASH AVE., CHICAGO, ILL.

The **CINCH** "THE
ONE THAT
COASTS."

IT COASTS FREELY, PERFECTLY.
IT BRAKES SMOOTHLY, NOISELESSLY.



IS NOT LIKE OTHER
COASTER BRAKES.

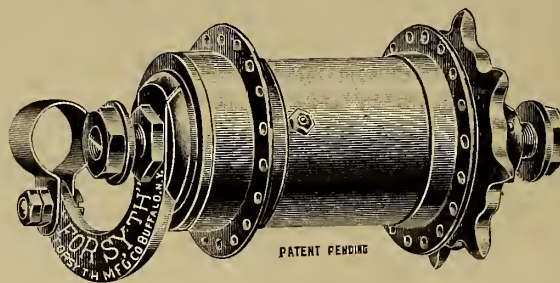
RIGGS-SPENCER CO.,
Manufacturers,
Rochester, N. Y., U. S. A.

C. J. IVEN & CO.,
Exclusive Selling Agents
U. S. and Canada,
Rochester, N. Y.

For all who Seek
Coaster-Brake Satisfaction

THE FORSYTH

has claims the cannot be minimized.



It Costs Nothing

to learn what they are. Simply say the word
and we will be pleased to submit some
figures and show you some features
about coaster brakes that you
may not have known before.

FORSYTH MFG. CO., Buffalo, N. Y.

TRANSMITTING THE POWER

The Forms of Motorcycle Drive Discussed —Faults and Advantages of Each.

The system of a direct reduction of speed from the motor to the driving wheel, by means of a small diameter wheel on the motor shaft and a large rim on the back wheel, is a direct loss of power, as the belt only has contact with about one-third of the diameter of the motor pulley wheel, and though this is grooved in the most approved manner there is always a certain amount of slip occurring, and this in wet weather increases to such an extent that we have known the motor to work at full power without moving the machine at all. In our opinion, says the Irish Cyclist, a combination of the two systems would give good results; that is, to reduce the speed by means of a gearing, and to convey the power from the shaft on which the big gear wheel is fixed by means of a grooved pulley, say, six inches in diameter, to another pulley of like diameter fixed to the hub of the back wheel.

The method of transmitting the power from the motor to the road wheel is a subject worthy of more than passing notice, and, having experimented largely in this direction, we are able to give our readers the benefit of our practical experience. The chief object in view in transmitting power is to absorb as little as possible of the net power of the motor between the driving and driven wheels. If a system of gearing is adopted for the transmission, then the power of the motor must be increased to overcome the extra friction set up by the gearing. In view of this loss the buyer should be careful to ascertain the actual—or, as it is more often termed, the "brake horse power" (b. h. p.), of the motor. This for the simplest form of transmission—the belt—should be not less than $1\frac{1}{2}$ b. h. p., that is, if the rider wants the machine to carry him up all hills which may be met with in the course of a day's run. If the rider is content to let the motor carry him along the level at a fair speed, and up the moderate gradients by its own power, and to assist it by pedaling up the steeper grades, he will find that the motor of 1 b. h. p. fills the bill. Those who wish to treat their machines solely as a means of mechanical transport will obviously require to get the highest powered machine they can obtain.

At present there are three methods of transmission in use—(1) gearing (cog wheels or chains), which may be termed a positive method; (2) belts, and (3) friction wheels (as in the Derby machine), which may be both termed flexible methods. The positive method has many points in its favor, and many against it. It is less troublesome than the belt. The power exerted at one point is definitely given off at another, less the amount absorbed by friction; it is not affected by climatic changes, and the mechanism has a longer life. Its disadvantages are

that through the positive drive all the vibrations of the engine are transmitted to the driving wheel, and the rider feels much more distinctly these vibrations. Owing to the high rate of speed at which the motor runs there is a tremendous amount of wear on the gear wheels, especially if they are of small diameter, and though they last longer than the belt they are more expensive to replace.

The belt drive's chief drawbacks are its liability to stretch and failure to convey the full power to the driving wheel. This at first sight appears to be sufficient to condemn it at once, but with the twisted rawhide variety which is now so largely used the tightening of the belt is a matter of a few minutes only, all that is necessary being to remove the belt, undo the fastening and



NEW YORK BRANCH. 214-216 WEST 47TH STREET

give the belt two or three extra twists. Excessive stretching only occurs when the belt is new; after two or three tightenings it will remain practically normal, only being affected by climatic changes. The chief advantage of the belt lies in its flexibility, which takes up the vibrations from the motor and exerts a more even and steady pull on the driving wheel. Say, for instance, the sparking advance is pushed forward too quickly; the charge will be ignited at an earlier moment, and the motor will increase its pace with a rush. This sudden increase in speed is not as perceptibly felt with the belt drive, as it is taken up partly by a slight stretch of the belt and a momentary slip on the pulley wheels. With a positive drive no such compensation could occur under like circumstances, so that the jerk forward would be plainly felt by the rider—sometimes too plainly—and a bending strain is thrown on to the motor shaft.

The British and American rights to the patents on the Werner motor bicycle have been purchased by a newly formed London institution, Werner Motors, Ltd. Whether they will operate the patents in this country is not stated.

BENDING THE BAR

Hand Processes Still Used in Repair Shops —Differing Methods.

In these days of parts makers and repetition processes, there is little room for the old hand methods of construction such as were formerly almost universal.

But, if this is the case where any considerable number of pieces is to be turned out, there are dealers and repairers who still have occasion for making a few parts by the old hand processes. The difficulty in getting from the manufacturers fittings such as particular customers desire is probably greater than it ever was, and, rather than lose a sale or order, the commission will be undertaken and the work performed.

The bending of handle bars is a case in point. A rider will frequently want a particular shaped bar, or his old one breaks and he wants a duplicate. A stock bar could be sold him at a fraction of the cost of a specially made one, but he is frequently willing to pay the price of the new one, and the dealer, if he is mindful of his own interests, never hesitates to undertake the job.

In each shop there is, of course, an established method for bending bars. Shall it be done cold or hot, filled with sand or rosin or left empty? Is there in the shop a form made specially for bending, and, if so, can it be utilized for the shape desired? These and other questions enter into the matter right at the beginning.

In some shops the bar will be bent over a piece of plank with a rounded edge, having first been slightly heated in the smith's or brazing forge. This is the way usually resorted to, for, even if there is a form to use, it will shape only standard bars. But in bending by hand any curve can be given to the piece of tubing—a ramshorn, an extreme drop or an upturn—the excellence of the job depending almost entirely on the workman.

If the latter has much handle bar work to do he will often elect to work with unfilled tubes. By so doing he saves a lot of time and avoids a rather disagreeable job. The filling material, whether it be sand or rosin or lead, has to be handled very carefully. It must be tightly packed in the case of the first named materials, and undergo several heatings if lead is used. Taken altogether, it is such a nuisance that a workman who has confidence in himself will dispense with filling entirely.

Of course, the great danger from an unfilled bar is that of kinking. It is not advisable to heat the tube too much, a red heat being avoided if possible, on account of there being so much scale. On the other hand, insufficient heating or injudicious manipulation renders kinking very liable, and a bar may be completely ruined in this way after it is almost finished.

The Week's Patents.

687,218. Parcel Carrier for Bicycles. Albert A. Gabriel and Edward M. Atkinson, Portland, Ore. Filed Nov. 21, 1901. Serial No. 37,306. (No model.)

Claim.—1. In a parcel carrier for bicycles, the combination with the seat portion of the same, of supporting legs extending from one side of the same and adapted to embrace the axle of the bicycle, rods connecting said legs with the other side of the seat, means for detachably securing the rods to the seat, clamps for securing said rods to the fork of the bicycle, and stays connecting the clamps and seat.

687,246. Variable Speed Gear for Cycles, etc. James R. Madan, Salisbury, England. Filed July 14, 1900. Serial No. 23,612. (No model.)

Claim.—1. The improved variable speed gear comprising a sprocket wheel and a toothed ring connected independently to an axle by one-direction clutch mechanism, a set of double spur wheels gearing with the said toothed ring and a toothed rim on the sprocket wheel, a normally free running plate carrying the axles of said spur wheels, and means for locking said plate to and unlocking said plate from a fixed position substantially as and for the purposes set forth.

687,299. Acetylene Gas Generating Lamp. Edward N. Dickerson, New York, N. Y. Filed

June 16, 1897. Serial No. 640,980. (No model.)

Claim.—1. In a lamp for generating and burning acetylene gas, the combination with the lamp body, of a water vessel, a gas chamber, a carbide chamber below the gas chamber, a burner, connections between the gas chamber and burner, a nipple for the outlet of water from the water vessel to the carbide chamber, a hollow stem seated around the nipple, and connections between the hollow stem and the cock of the burner for controlling the supply of water to the carbide, substantially as described.

687,369. Gear Cutting Machine. Hermann F. Cuntz, Hartford, Conn., assignor to American Bicycle Co., Jersey City, N. J., and Borough of Manhattan, New York, N. Y., a corporation of New Jersey. Filed April 13, 1899. Serial No. 712,840. (No model.)

Claim.—1. In a gear cutting machine, the combination of a shaft, means to secure a disklike gear blank upon the end of said shaft, a cutter carrier shaft disposed at an angle with respect to the first named shaft and located in the same vertical plane with its axis, a cutter carrier on the second shaft, a milling cutter with one end free, supported by said carrier radially with respect to the second shaft and with its cutting surface in contact with the edge of said gear blank, means for rotating the cutter, and means for

imparting corresponding movement to said shafts, substantially as shown and described.

TRADEMARKS.

37,391. Pneumatic Tires. Punctnot Tire Co., Camden, N. J., Philadelphia, Pa., and Boston, Mass. Filed Nov. 1, 1901.

Essential Feature.—The word "Punctnot." Used since Oct. 7, 1901.

The Retail Record.

Putnam, Conn.—Albinie Delisle will open a repair shop.

Genoa, N. Y.—Robert Tabor has closed his repair shop.

Norway, Me.—H. & E. Sanborn, retired from business.

Jamaica Plain, Mass.—Charles E. Johnquist, closed for the winter.

St. Johnsbury, Vt.—E. M. Courcheine, 69 Eastern avenue, closed for the winter.

Homer, N. Y.—E. B. Richardson has purchased the business of Quick & Radway.

Fred T. Merrill, the well known jobber of Portland, Ore., has headed Eastward on his annual visit to Chicago and New York; he is due to arrive here next week.

"LIBERTY" CHIMES BICYCLE and MOTOR CYCLE BELLS

Original in Design.

Practical in Construction.

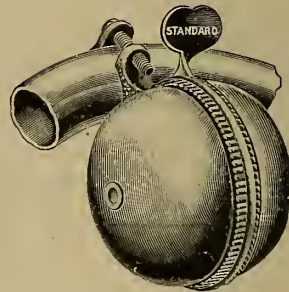
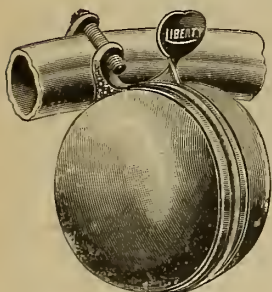
Superb in Finish.

In a word their general excellence has made them pre-eminent everywhere.

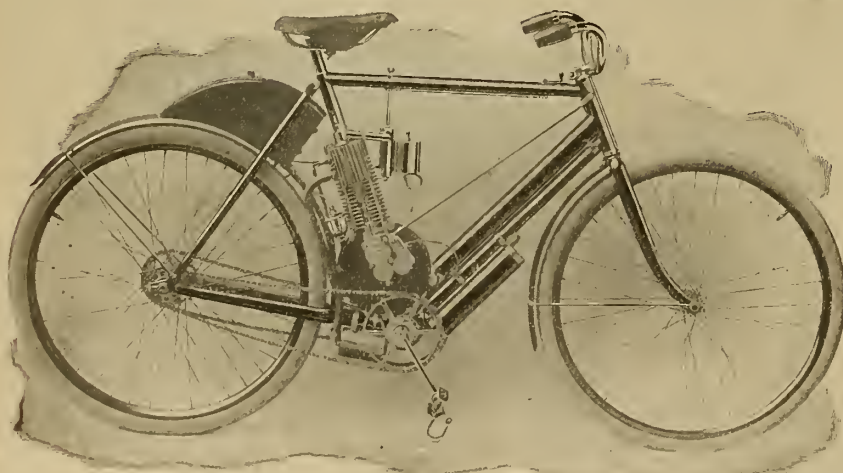
FOR SALE BY ALL THE LEADING
JOBBER.

USED BY ALL DISCRIMINATING
PURCHASERS.

LIBERTY BELL CO., Bristol, Conn.



Motor Bicycle Disappointments



have been many—too many, perhaps. We are not unconscious of the fact. We know what caused them, or most of them, at any rate. And the causes and effects were all taken into account in the designing and construction of the

INDIAN MOTOR BICYCLE

Among other things—and they are highly important, too—it is the profiting from the "other fellow's" experience that has made the INDIAN what it is—the motor bicycle that does what it is built to do and gives what it is built to give, *i. e.*, satisfaction.

Have YOU made its acquaintance yet?

HENDEE MFG. CO., Springfield, Mass.

One of December's Surprises.

"Bless my soul! A customer in a bicycle store in December, and actually interested in the new models? What does it mean?"

The Bicycling World man had "just dropped in," and this astounding sight met his eye. The customer alluded to was a youngish looking man, and he was listening attentively to the salesman who was describing the principal features. The latter was warming to his work.

"Yes, this is our best machine," he was saying. "It's a chainless, and has a cushion frame. The price is \$75. High? Not for a machine of this kind. You see, it has all the latest improvements, and is really a superior wheel. The workmanship and finish are very much better than are to be found on a cheap chain machine."

"Do you fit the coaster-brake?" asked the customer.

"Oh, yes; it can be used on a chainless as well as on a chain machine. That is a great advantage, of course, for no rider who has ever tried a coaster-brake will be without one. It is one of the best things that was ever put on a bicycle."

Then followed a long series of questions and answers, all relating to the details of construction. If appearances went for anything there was a sale in sight, and the salesman was doing his best to clinch it. And a move toward the cashier's desk just as the reporter was leaving lent support to the belief that he had been successful.

How the Germans "Get There."

Within the past two years the German colonial school at Wilhelmshof, in Witzendhausen, has educated and sent twenty-five young men to German East and Southwest Africa, Kameroun, Togo, South Sea Islands, Ecuador, Brazil, Philippines, Cape Colony and Sumatra. The course of study given in this school is as follows: History, colonial economics, commercial politics, chemistry, botany, geology, natural history, tropical climates, tropical agriculture, bookkeeping and gardening, with special attention to raising vegetables, fruit and vines, and forestry. A chemical laboratory, a blacksmith, a locksmith, a cabinet making and other departments have been arranged, where work is practiced as taught.

Dry Batteries Condemned.

While the dry battery is in almost universal use on motorcycles in this country, abroad storage batteries are not unusual. In fact, at a recent session of the Cycle Engineers' Institute, at Coventry, the dry battery was described as an abomination. The speaker said he found that gelatine accumulators were much better than the ordinary wet battery for the ignition, because the acid could not leak, and did not creep into the carburetter and make a mess of it. It was merely sulphuric acid and water mixed with gelatine, and then properly charged. It would run four or five hundred miles without any trouble. His great trouble was with sparking plugs.

The Cycle Thief's Paradise.

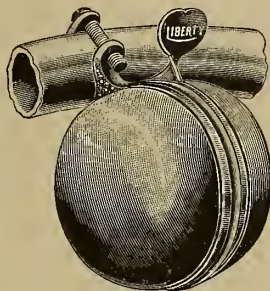
Minneapolis appears to be suffering an epidemic of cycle stealing. During October 123 wheels were stolen and 66 were recovered.

Up to November 28, 87 bicycles had "disappeared" during the month.

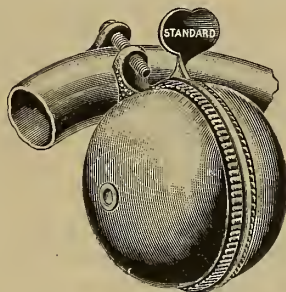
Of the wheels recovered few were found in pawnshops, most of the thieves having left them standing outside in some distant part of the city.

Chime Bells Gaining Ground.

Every sign indicates that the musical chime bell is due for a pronounced increase in popularity. The bellmakers have all prepared for it. The Liberty Bell Co., Bristol,



Conn., is, of course, among the number, the Liberty chime being prominently featured by their 1902 catalogue, which has just been issued. The accompanying illustrations show two of the Liberty patterns. The chime is continuous, and at that require no winding. Gong bells, with and without push



buttons, likewise decorated bells, of which the Liberty people claim to be the originators, are, needless to say, also catalogued, the prices ranging as low as 25 cents.

Going West?

If you purchase your tickets via the Nickel Plate Road, the shortest route between Buffalo and Chicago, you will secure the best service at the lowest rates. Three fast thru express trains daily, in each direction, between Buffalo, Erie, Cleveland, Ft. Wayne and Chicago, making close connections at the latter city with the fast trains of the Western roads. The trains on the Nickel Plate Road consist of elegant vestibuled day coaches, sleeping cars of the latest models, and Nickel Plate dining cars serving famous individual club meals at rates from 35 cents to \$1. Thru sleeping cars are also run from Boston, New York, Albany, Syracuse, Rochester, Scranton, Binghamton and Elmira, and many other Eastern cities.

If your ticket agent cannot give you the information desired, address F. J. Moore, General Agent, Nickel Plate Road, 261 Main St., Buffalo, N. Y.

If You Are Interested in Automobiles



WILL SURELY INTEREST YOU.

It is published for the information of the average mortal; no dictionary of mechanical terms is needed to understand it.

PUBLISHED EVERY THURSDAY
AT 123-125 TRIBUNE BUILDING,
NEW YORK CITY.

\$2.00 PER YEAR.
10 CENTS PER COPY.

SAMPLE COPY ON APPLICATION.

HEART BEATS AND SPEED

They Have a Retarding Influence—Other Deterrents and Drawbacks Described.

Even a rider's heartbeats retard his speed, so inexorable is the law of motion, so imperative the necessity for uniformity of movement. So at least a speculative writer in a foreign contemporary asserts.

"Every rider knows the importance of maintaining his effort smoothly and consistently without variation of force," he says.

"Alternate acceleration and diminution of speed over a given distance costs more force than the maintenance of a uniform, steady speed.

"Hence the law: for economy, speed must be uniform.

"The resistance in bicycle riding varies as the square of the speed, or, what comes to the same thing, the force impressed is as the square of the speed. (R or $F = V^2$.)

"If we take two cases, one of a uniformly impressed force, and one of a varying force, but both totalling the same in force-units, we shall find that the uniformly impressed force gains a greater resultant victory—or distance—than the varying force.

"Or, if we take a given distance, covered at a uniform velocity, and the same distance covered at an irregular velocity, we shall find that the uniform velocity is the most economical.

"Ununiformity of velocity is a fault of the chain. If it ran evenly at a uniform rate upon the chain wheels it would be well, but at the hub ring, under constant foot pressure, it is lifted and goes faster, and is lowered and goes slower, the alternation continuing ad infinitum. Though minute, the frequency of the error renders it considerable.

"The error is greater upon the hub ring than upon the bracket ring, and on the latter, under constant foot pressure, when lifted it goes slower, and when lowered it goes faster.

"On a serpentine road make a straight line through, because (1) such is the shortest course, and (2) all deviation from the straight is an increased propulsion cost.

"A sharp turn of the steering materially affects speed. Stiff steering also affects speed. The steering wheel should be free to turn at the slightest swing of the body weight. Enforcing steering by hands or springs reduces speed.

"When a bicycle is ridden hands off the steering momentum governs direction, and is only altered by body momentum. All questions of speed are referable to Newton's 'First Law of Motion'—'Every body perseveres in a state of rest or of moving uniformly in a straight line, except in so far as it is made to change that state by impressed forces.'

"For this reason faster times can be accomplished upon straight stretches of road than can be accomplished upon racetracks,

which have other shapes. On a circular track speed is uniformly lessened by the cycle constantly being forced out of a straight line, which is natural. Two actions conspire to effect the circular run—(1) the steering wheel is deflected and (2) the rider leans toward the track centre.

"A switchback road is no gain to a speed cyclist.

"Up-and-down courses, whatever their nature, cannot be as economical of force as level courses, since they necessitate irregular force expenditure.

"Let the running be smooth. Sit still and ride without bound or wriggle. Bobbing of the head, shoulder movements and unsteadiness in the seat are very uncondusive to speed.

"Just as the tidal movements are a force-cost which slightly diminish the speed of the planets, as the vibrating of the feathers of a bird diminish the speed of its flight, and as the rolling of a ship and the rattling of a train diminish their headways, so does every movement of the rider which is not consistent with uniform steady progress in a straight line tend to diminish speed.

"It may seem strange, but it is nevertheless a fact, that the essential movement of the rider's legs tend against speed, and all motion not consistent with uniform pace onward has to be paid for out of the propulsive force of the rider.

"Even the rider's heartbeats (though necessary) militate against his progress, and it is significant that the birds which travel at greater speed than the surface denizens of Mother Earth have their hearts attached to their ribs, so that the relative rigidity of the organ is increased, whereas, in man, etc., the heart is not so attached, but lies free in the cavity of the chest, and the amplitude of its vibration can for that reason be greater."

As Viewed in Augusta.

In its progress the motor bicycle has reached the Capital City of the Empire State of the South. The emotions excited by its appearance are thus depicted by the Augusta (Ga.) Chronicle:

"The first motor cycle ever run upon the streets of Augusta was seen flying up and down Broad street yesterday.

"The novel mode of locomotion created considerable attention and comment as it passed. The machine moves swiftly, easily and seemingly with so little effort that one instinctively wonders what do they cost, and at the same time squeezes the pocket-book to judge of its condition.

"The machine is very little larger in looks than an ordinary wheel, and the motor by which it is operated serves beneath the crossbar, under the rider, and is not as large nor bunglesome looking as might be naturally expected."

"The Motor: What It Is and How It Works." See "Motocycles and How to Manage Them." \$1. The Goodman Co., Box 649, New York.

WAITING FOR NEXT YEAR

Then she Will Resume Cycling—This Season's Laches Explained.

"Such a beautiful day for a ride! I really envy you!" exclaimed the visitor, as she watched him bring out his wheel and start to pump up the tires.

"Why don't you go, too?" was the rejoinder. "There's an extra machine in the wheel-house, and it can be made ready in two minutes."

"Oh, I don't know. It's too much trouble to dress, and I haven't ridden for some time and am not in condition. I wish I could go, though, for I'm just dying for a ride. The sight of the wheel just sets me wild."

"And why haven't you ridden much this year? You used to be a regular mileage fiend. Did you get tired of it?"

"No, I did not. I like riding just as much as I ever did, and could get just as much pleasure out of it. All this year I have been anxious to get out in the open air and take long rides again. I'm getting dreadfully fat, and I know cycling would reduce that. I never enjoyed such good health as when I rode.

"But it seems such hard work to get out nowadays. There's always something happening to prevent my going. What with getting my wheel out of the cellar and pumping the tires and dressing for a ride, the time set aside for my ride seems to be gone before I get started. Then there is not very much fun in riding alone, you know; and it's like pulling teeth to get any of the girls to go with me. They all say that they will go, and seem delighted at my having suggested it; but they are awfully slow in getting ready, and when they do finally come they can't go far without getting tired, because they haven't ridden for so long. It's really discouraging.

"But I'm going to ride next year. That I have made up my mind to. Oh, you may smile, but I mean it, and will do it, too.

"We have talked it all over, Howard and myself, and we shan't let anything turn us from our purpose. We never had such good times as when we rode, nor saw so many places; and we are going to take it up just where we left off two or three years ago, and have just as much fun.

"The other boys and girls we have talked to seem to like the idea, too, and say they will join us just as they used to do. But whether they are in earnest or not—that is, whether they will be of the same way of thinking when spring comes—we shall go ahead and ride. If we have their company it will be just that much nicer, of course; but we are not going to let their defection spoil our fun, as we did this year and last, let me tell you.

"We'll come over and take trips around here with all of you. Won't you be glad to have us come?" And she smiled provocatively.

Bicycle vs. Automobile.

In the controversy being waged in the columns of the New York Sun about automobile construction and faults, the bicycle has finally been dragged in. It is, of course, regarded as the light vehicle par excellence, and a well informed writer has this to say about it:

"The conditions enabling so little cycle weight to carry so much rider weight are two: First, the pneumatic tire relieves the cycle from shock, and lays a smooth road for the vehicle as it goes; next, the rider balances the cycle, and so brings the load always exactly in line with the plane of greatest strength of the girder formed by the diamond frame and supported at its ends by the wheels. This latter condition is highly important, and can be had in no vehicle except a bicycle; as soon as a third wheel is added all the load lines are changed, side stresses, absent in the bicycle, are introduced, and the weight must be vastly increased to carry a given load."

Now, this is taking away a great deal of the honor for bringing the bicycle to its present unique position. This was not accomplished easily or quickly or cheaply. Trade, press and public labored for a great many years to perfect the bicycle, and that success crowned their united efforts is universally conceded.

Some of the saving in weight is due to the pneumatic tire—which, by the way, is also used on automobiles—but by no means all of it. There were thirty-five pound bicycles—

roadsters—with solid tires; and the pneumatic tired machine of to-day will not scale very much under that if similarly equipped. The air tire does insulate the bicycle from many shocks, but it also entails the use of constructional methods which result in the addition of considerable weight. The net result is a saving, of course, but by no means as great a one as is commonly supposed.

The second contention referred to is also vulnerable, and this in spite of its general accuracy.

The addition of a third wheel does not always necessitate a vast increase in weight. The tricycle furnishes a complete demolition of this argument. Tricycles never had as much attention given them as the two-wheeler, but nevertheless they can be, and are, produced to turn the scale at considerably under forty pounds. Furthermore, the details of construction differ but little from that of the bicycle.

No, it is not fair to take from the bicycle one iota of its just due.

It stands out clear and distinct from all other vehicles in respect to its own weight and that carried by it. The credit for this belongs, as stated, to the trade, the press and the public, and it is not to be lightly lost sight of or permitted to be assigned to any other cause.

"Defects (in motorcycles) and How to Remedy Them." See "Motorcycles and How to Manage Them." \$1. The Goodman Co., Box 649, New York. ***

Brakes to Burn.

One would think that the British trade and public had by this time pretty well settled the brake question. Certainly there has been enough talk and action to accomplish this result. But there appears to be just about as much of this as ever, and new ideas and improvements of old ones are constantly coming to the front.

Two brakes is the least number any sane British rider will put up with, if reports are to be believed, and in the selection and fitting of these very great care is taken.

One firm fits two rim brakes, and they are so arranged that by the twisting of the right handle they are applied simultaneously and remain on until the handle is twisted back again. In addition to these two rim brakes, which they recommend most strongly, they have a very light and effective front rim brake, actuated by the thumb from the handle bar, and to be used in conjunction with a two point back pedal band brake.

"Coasted" 2 1-2 Miles.

England's rival coaster-brake manufacturers are still contributing to the gayety of the trade in their war for possession of the so-called "free wheel record." On the Aston track, Bywater, who appears to be the king-pin at the game, "coasted"—that is, "sculled" or "wriggled" his bicycle—the amazing distance of 4,451 yards. He seesawed the first mile in 10m. 19s. and two miles in 24m. 14s., and the 2½ miles and 51 yards in 30m. 24s.

"ELEGANT WORK"

New York, Nov. 22, 1901.

H. A. Matthews Co.,
Seymour, Conn.

Dear Sirs:

Harden these pieces and return them to

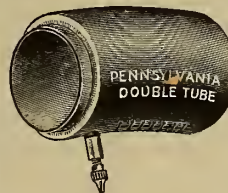
F. H. Richards,
8th floor, 15 Murray St.,
New York.

I hope they will be as good as the elegant work you have done for us before. Return with bill.

Faithfully,
Horace L. Arnold.

"Elegant Work" is the Matthews Forte.

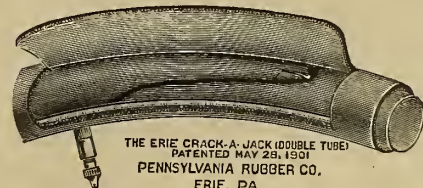
Jobbers, Be Wise!



Handle these
Goods and
MAKE MONEY.

STAY WITH THE GOLD MEDAL WINNERS.

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Price
List.

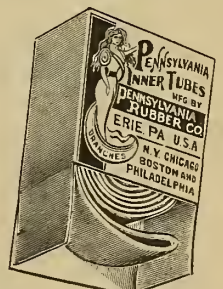


Don't close
until you
consider
our entire
line.

**PENNSYLVANIA
Rubber Company,
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BRANCHES:

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CHAMPION HUBS

Write for Complete Description and Prices.



LIGHT WEIGHT RACING MODEL.)

ALSO REGULAR ROAD HUBS.

Worthy of Their Name.

VULCAN HUBS.

Cheap but Good and Well Worth Their Price.

I. A. WESTON CO., Syracuse, N. Y.

Selling Agents, C. J. IVEN & CO., Rochester, N. Y.

HIGH GRADE

wheels must have the
best equipments.

There is nothing that gives more value for
the money than the use of the

MORSE TWIN ROLLER CHAIN



NOISELESS IN MUD, WATER OR
DUST AND ALWAYS EASY RUNNING.

The only chain having Frictionless
Rocker Joints. Insist on having the
Morse Twin Roller. Fits regular
sprockets.

Send for Catalogue and
Trade Price to

Morse Chain Co., Trumansburg, N. Y.

WANTS AND FOR SALE.

15 cents per line of seven words, cash with order.

WANTED—Everyone interested in motor bicycles to purchase "Motocycles and How to Manage Them." Contains 126 pages bristling with information. \$1.00 per copy. For sale by The Goodman Co., 154 Nassau St., New York City.

POSITION—Wanted as branch manager or traveling representative for tire or accessory house. Large acquaintance in the trade. Address X. Y. J. Box 649, New York.

WANTED—Bicycle Salesman, who can command trade in the East; must have experience. Address Key, care of Bicycling World.

Motor That has Novel Features.

Of new motors and motor bicycles there is almost no end in the English trade. One of the latest of the former possesses some entirely novel features—novel, that is, as applied to bicycles. The flywheel is outside the crank chamber, and has a pulley cast on it for driving, the transmission being by belt. It is fitted with a magneto system of ignition, and this is noteworthy as being the first to be used in connection with a bicycle. The motor is made by the Simms-Borsch people, whose system of ignition is well known in connection with automobiles.

"Motocycles and How to Manage Them"; 126 pages, 41 illustrations; cloth bound. \$1. The Goodman Co., Box 649, New York. ***

Bicycle Parts and Tubing

WRITE US FOR PRICES.

THE STANDARD WELDING CO.
CLEVELAND, OHIO

NEVERLEAK STOPS LARGE PUNCTURES.

This is the only fluid that can be legally used in pneumatic tires. Suits now pending.

BUFFALO SPECIALTY MFG. CO.,
Buffalo, N. Y.

HAND AND FOOT PUMPS,

Oilers, Repair Tools,
Valves, Name-plates, etc.

Spelter Solder

Sheet Brass,
Brass Wire and Rods.

SPECIALTIES to order
MADE of BRASS.

SCOVILL MFG. CO.

Factories: Waterbury, Conn.
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OILERS.

"PERFECT"



25c.

"GEM"



"LEADER"



10c.

"STAR"



We make oilers for almost the entire trade. The quality of our oilers is unequalled.

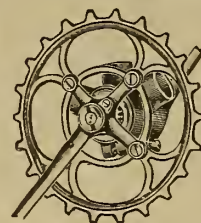
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THE MAGIC is as good as ever. But prices are different. Get our new quotations for 1902 and you will be right in it. You will find it well worth the trouble.

THE MAGIC REPAIR TUBE CO., 250 LARRABEE ST., CHICAGO, ILL.



"D. & J." HANGERS

FOR
Single,
Tandem,
Triplet,
Quad and
Motor Cycles.

Lightest, Nearest Dust Proof, and
Easiest Running Hanger in the World.
Park City Mfg. Co., inc., Chicago

**If You Desire
Complete Motor Bicycles**

You cannot get a better one than

THE MARSH.

**If You Desire
to Build Your Own Motor Bicycle**

We can supply everything which you require
for the purpose. Write us.

The Motor Cycle Mfg. Co., Brockton, Mass.



STEEL BALLS

The Best in
the World.

EXCELSIOR MACHINE CO., BUFFALO, N. Y.

Have you ever
handled a sundry
that sells as
easily as
This?



THE 1902 MODEL
ADMIRAL
COMBINATION LAMP

HAS NO SCREW THREADS
TO CORRODE AND STICK.

Our Improved Seal and Attach-
ment does away with this
trouble.

The only lamp on the market
that burns oil or gas in the same
lamp.

See sample and quotations be-
fore placing your orders.

MADE BY

THE ADMIRAL LAMP CO.
MARYSVILLE, OHIO.

NEW YORK OFFICE, 50 Warren St.
CHICAGO, OFFICE, 154 Lake St.

The Week's Exports.

While Great Britain and Germany ac-
counted for the heaviest shipments last week,
Bavaria, the British West Indies and China
made tidy purchases of American cycle stuff,
as the following detailed record attests:

Antwerp—5 cases bicycles, \$200; 1 case bi-
cycle material, \$150.
Amsterdam—7 cases bicycle material, \$153.
Bremen—1 case bicycles, \$10.
British East Indies—14 cases bicycle mate-
rial, \$854.
British West Indies—48 cases bicycle mate-
rial, \$1,503; 5 cases motors and parts, \$927.
British Possessions in Africa—8 cases bi-
cycles and material, \$1,090.
China—62 cases bicycle material, \$1,448.
Cuba—5 cases bicycle material, \$113.
Chili—11 cases bicycles and material, \$281.
Dutch East Indies—2 cases bicycles, \$150.
French West Indies—1 case bicycles, \$40.
Gothenburg—1 case bicycles, \$25.
Glasgow—5 cases bicycles, \$145.
Genoa—1 case bicycles, \$25; 30 cases bicycle
material, \$1,155.
Havre—8 cases bicycle material, \$210.
Hamburg—104 cases bicycles, \$7,225; 11 cases
bicycle material, \$298.
Japan—42 cases bicycle material, \$523.
Liverpool—19 cases bicycles, \$495; 4 cases bi-
cycle material, \$157.
London—4 cases bicycles, \$110; 125 cases bi-
cycle material, \$10,725.
Mexico—2 cases bicycles, \$51.
Nuremburg—31 cases bicycle material, \$3,410.
Philippines—32 cases bicycle material, \$1,130.
Rotterdam—2 cases bicycles, \$62; 7 cases bi-
cycle material, \$335.
Salonica—7 cases bicycles, \$120.
San Domingo—1 case bicycle material, \$20.
Southampton—15 cases bicycle material, \$565.
Uruguay—13 cases bicycles, \$279.

Tourist Cars on the Nickel Plate Road.

Semi-weekly transcontinental tourist cars
between the Atlantic and the Pacific coasts
are operated by the Nickel Plate and its con-
nections. Tourist cars referred to afford the
same sleeping accommodations, with same
class of mattress and other bedclothing, that
are provided in the regular Pullman sleep-
ing car service. These tourist cars leave
Boston on Mondays and Wednesdays, and
leave San Francisco on Tuesdays and Fri-
days. Berths in these tourist cars are sold
at greatly reduced rates. Conveniences are
offered without extra cost, for heating food,
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cially for families travelling with children.
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LUXURY.
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and their connections.

The gold output of Colorado last year was nearly thirty million dollars, or about six million dollars greater than in 1899. A visit to Denver is always interesting and profitable.

A copy of No. 21 of the "Four-Track Series," "Round the World in 60 days" will be sent free, postpaid, to any address on receipt of a postage stamp, by George H. Daniels, General Passenger Agent, New York Central & Hudson River Railroad, Grand Central Station, New York.

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WAY ALL THE TIME

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and such of the trade that has seen
them express entire SATISFACTION. :: ::

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HAVE ALWAYS BEEN GOOD.
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THE SNELL CYCLE FITTINGS CO.
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is the very book you need.
Every page teaches a lesson. Every illustration
"speaks a piece."
And there are 126 pages and 41 pictures, too!

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TO ALL MAKERS AND DEALERS

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The Bicycling World

AND MOTOCYCLE REVIEW.

In which is incorporated "The Wheel and Cycling Trade Review" and the "American Cyclist."

Volume XLIV.

New York, U. S. A., Thursday, December, 12, 1901.

No. 11

MAKES A SORRY SHOWING

**Canadian Trust Reports a Disastrous Year
—Even its Reserve Fund Disappears.**

Sensational developments were forthcoming at the annual meeting of the shareholders of the Canada Cycle and Motor Co.—the Canadian Trust—held last week at Toronto, Can.

The report of the directors revealed an alarming state of affairs. It showed that in order to pay two half-yearly dividends amounting to \$175,000, both the reserve fund and the profit and loss account from the previous year were wiped out entirely, and the profits for the year ending August 31 last were absorbed, leaving a deficiency of \$126,000 in addition. This is bad enough. But it was further shown that the profits have shrunk to practically nothing, the total for the year being but \$2,035.28.

The profit and loss account for the fiscal year reveals the company's remarkable condition. It is as follows:

Reserve account.....	\$25,000.00
Profit and loss account (from 1900)	\$28,421.43
Written off during year..	6,543.09
	21,878.34
Add profits for past year.	2,035.28
	\$48,913.62
Paid dividends on preferred stock.	175,000.00

Deficit\$126,086.38

The statement shows liabilities of \$6,750,505.70, made up of accounts and bills payable, \$1,250,505.70; capital stock preference shares, \$2,500,000, and common shares, \$3,000,000.

The assets consist of real estate, machinery, plant, tools, furniture, fixtures, patents, trademarks, good will, etc., \$4,958,513.74; Hamilton factory, \$26,823.11; accounts and bills receivable, \$629,062.35; stock on hand, \$967,681.31, and cash on hand and in banks, \$42,338.81, making a total of \$6,624,419.32.

The report states that the year has been an anxious and trying one, with the results of the trading very unsatisfactory. Expecting an output equal to that of the preceding year, factories were run and sales departments organized on that basis. The report says the

board at the time the half-yearly dividends were paid expected that the earnings for the year, plus the amount carried over from the open profit and loss account of the previous year, would be sufficient to pay these dividends. The profit and loss accounts show their miscalculations. The causes given for the difference in results are given as increased cost of manufacture, increased cost of selling arising out of a lessened output, a less favorable result from the Australian business, and the necessity of selling many wheels at the close of the season at reduced prices.

Further, it is stated that at the time of organization there were no indications of a serious reverse of the bicycle business, and the directors believed the new organization would continue to hold the business of the companies amalgamating. This belief was proved falacious. The directors were also wrong in their belief of a year ago that conditions would improve during the year. Weather conditions are given as the chief cause of poor business. These, however, were not all, and the necessity of economy is pointed out. Savings are expected through the consolidation of the sales branches and factory plants in the early future. Already one factory in Brantford has been closed, and negotiations are now in progress for its sale.

The report, which was adopted, contained a clause that the Managing Committee of the Toronto Stock Exchange be requested to withdraw the preference stock of the company from the securities listed on the Exchange until such time as the company shall resume payment of dividends.

The Australian business this year is said to have shown an increase, but profits have been less owing to low prices. Some business has also been done in Japan and other foreign countries.

The "Angel" Gets Judgment.

Judgment for \$22,686 in favor of J. Overton Paine and another vs. Edmund F. Stratton, was entered in the New York courts this week. It is believed to mark the end of the Stratton Motor Bicycle Co., of which Stratton was the active man and Paine the "angel." Paine is a Wall street broker, and Stratton, born Gottschalk, was the inventor of the bicycle which, listed at \$150, was exhibited at the last New York show.

MORROWS AT FOUR-FIFTY

Eclipse Mfg Co., Reduces Retail Prices Fifty Cents—Situation Grows Tense.

The situation in the coaster brake trade, which has been gradually growing more interesting, is becoming acute. The development of the week was an unexpected reduction of 50 cents in the price of the famous Morrow, \$4.50 being the new price announced by the Eclipse Mfg. Co. Without striving for a word play, it may be stated that there is no telling what the morrow may bring forth so tense is the situation and so keen the competition.

Acme Quits.

The Acme Coaster Brake Co., Rochester, N. Y., is out of it. While the Acme people had not been particularly active or aggressive of recent months, there was no hint of the trouble that has apparently rendered them homeless.

"Matters beyond our control" is the reason ascribed in the Acme announcement of the fact that they "have been compelled to discontinue business for the present," the matters in question having left them "no place for the transaction of business."

"As a result," continues the notice, "we will not be in a position to offer the trade a new model Acme brake for 1902, nor can we receive brakes and wheels for the purpose of replacing extra parts. We will, however, endeavor to supply any extra parts needed by our customers for the 1901 model, as far as our supply of such parts will permit. It is very probable that we may enter the field at a later date, but think it right and proper that we should take this means of informing our friends of our temporary discontinuance of business."

One Jobber Less.

Brown & Wales, who for many years were engaged in the cycle jobbing trade in Boston, Mass., have discontinued that branch of their business. Manager Clark, who was formerly in charge of the department, has associated himself with the E. P. Blake Co., of the same city.

WHAT EUROPE WANTS

Motor Bicycles, Says Kievenaar, but Urges That Past Experience be Considered.

There is a great field for motor bicycles in Europe, according to G. P. Kievenaar, of Amsterdam, Holland, who but confirms the general belief.

Mr. Kievenaar, who is now in this country on other business, was formerly in the cycle trade in Amsterdam. He had a great deal to do with American machines, and is thoroughly conversant with the condition of affairs there. He talked freely to the Bicycling World man, principally on the motor bicycle.

"People are ready for this machine," he said. "Their interest has been awakened, and it only remains to strike while the iron is hot by following up this interest and selling them motor bicycles."

After a few questions about the progress of the motor bicycle industry in this country, the prices—both wholesale and retail—asked for them, the prospects for immediate delivery, etc., Mr. Kievenaar continued:

"The matter of price is, of course, an important one, although everything does not depend on it. A \$200 list would not be out of reason, although the maker who could deliver a motor bicycle at \$150 could make his fortune out of it in a season. He could sell them by the thousand without the slightest trouble.

"Now, there is the Minerva motor. It is made in Belgium by an engineering firm, and has met with very great success. In England most of the motor bicycle makers are using it, and it appears to be giving satisfaction. Well, the Minerva people fit this motor to a bicycle which they make also. This they sell at retail for 400 guilders—that is, let me see, \$160. From this figure they give a good trade discount, large enough to bring the net price down to a figure where the retailer can make some money.

"But if American makers are to do anything in Europe with their motor bicycles they must make them conform to European standards.

"That was one of the great troubles with the ordinary bicycle. You Americans were too fond of making what you wanted. You would come to European countries and try to sell bicycles with single tube tires and wood rims and wood mud guards—if any kind were supplied—and such things that would go all right in your own country; but our people did not want them and would not have them.

"Many a time I have argued with makers who sold me American bicycles, and it was only after the hardest kind of work that I could get them to meet me more than half way. The kind of bicycles they made were liked here, and they could not see why they could not educate European riders to like

them, too. If they could not do so they blamed the riders instead of themselves.

"That was the secret of the great success that attended the Monarch bicycles. The Monarch people gave riders just what they wanted, and they were well rewarded. I honestly believe that there were more Monarchs sold in Europe than any other make; and this was the case simply because they were designed to meet European tastes."

How the Hammock-Type is Gaining.

As the Bicycling World pointed out several weeks since, the suspension or hammock type of saddle, which has steadily gained ground, is due for an extensive inning during 1902; time and additional information have but served to confirm the assertion.

The Persons Mfg. Co., Worcester, Mass., for instance, state that from July 1 to December 1, 1901, their business increased exactly 90 per cent over that of the corresponding period of the previous year. Looking ahead, President Persons states that orders for future delivery now on file exceed by several thousands those in hand at this time last season.

"It is going to be a good year for the energetic, and a bad one—a very, very bad one—for the sluggards and malcontents," he adds prophetically—a prophecy that is very plainly forecasted.

Entending the Olive Branch.

It is given out that the National Show will hereafter be held in January, beginning in 1903, of course. This will leave the November date open to the Stanley show and remove much of the friction the selection of conflicting dates has caused of late years. It is also stated that the National boycott will be removed. This was a rule excluding any concern exhibiting at the rival show, and was in force when the two shows were held on different dates.

Maynard in Springfield.

The Maynard Rubber Corporation was last week incorporated under the laws of the State of Connecticut, with a capital of \$5,000. The company will locate and do business at No. 139 Bridge street, Springfield, Mass., and will make a specialty of bicycle and automobile tires and accessories. E. W. Maynard, the president, is well known in the bicycle and automobile trade throughout New England.

The Wandering Boy Returns.

W. E. Eldridge, once the largest dealer in Newark, N. J., if not in the State, has been appointed manager of the Columbia branch, in Boston. Before the slump set in Eldridge quit the bicycle business a big winner, and then lost the winnings in Western mining ventures.

Leased to Stevens.

The American Bicycle Co. has leased the old Spalding bicycle factory at Chicopee Falls, Mass., to the J. Stevens Arms and Tool Co. It will be employed in the manufacture of rifle barrels,

MULLOY NO PESSIMIST

In the Light of the Columbia Lamp, he finds no Fault With Past or Future.

There arrived in New York on Monday another cycle tradesman who, looking either backward or forward, does not view matters through indigo-colored glasses—E. W. Mulloy, representing the Hine-Watts Mfg. Co., Chicago. Mr. Mulloy, after visiting the trade west of Buffalo, had crossed into Canada, and reached New York via Portland, Me., and Boston, Mass.

"We have no fault to find with the business," he said in answer to the question. "If I am not greatly mistaken, our Columbia lamp was the only gas lamp that developed an increased trade this year, and my trip has convinced me that our sales in 1902 will be even better than in 1901."

"On what do you base the belief?"

"On the fact that we have held all our old customers and have made quite a number of new ones. In Canada we have established connections that should assure a substantial increase in that direction alone."

"Is the depression across the border as pronounced as reports have stated?"

"I can't say that I found much evidence of it; in fact, the trade in Toronto impressed me as being very much alive and having more confidence and less conservatism and lukewarmness than the larger cities in this country. In Canada there are no lamp ordinances, yet lamps are in general use, and the trade appreciates that they are profitable articles to push. When one approaches a buyer or prospective buyer the latter does not find it necessary to remind him that there are no lamp laws in force, and that therefore there is no use in trying to sell lamps. In this country they repeat it so often that it rings in your ears.

"One of the troubles with the bicycle business," went on Mr. Mulloy, "is the number of people in the trade who go around with long faces and doleful tones, repeating their convictions that the bicycle is 'dead.' They don't seem able to appreciate that after every intense effort a reaction ensues, and that it requires time for the person or trade affected to regain his or its normal condition."

It is pertinent to add that, although a cyclist for ten or twelve years, and, he added, a reader of the Bicycling World for the same extended period, Mr. Mulloy did not become identified with the cycle trade until the "strain"—the boom—had spent itself.

Ward Retires.

J. J. Ward, proprietor of the Connecticut Rubber Co., Hartford, Conn., previous to the incorporation of that firm, has sold his interest to F. W. Starr and will retire from the business on January 1st. Mr. Ward has been in ill health, and is going South for the winter.

ENGLISH EVOLUTIONS

**Both Cycle Shows Gave Proof That Trade
There is not Stagnating—Many old
Friends in new Form Revived.**

What with motor bicycles, featherweights, cross and spring frames, the two English shows held last month furnished plenty of food for reflection and talk.

In almost every respect the exhibitions met expectation. There was an improvement over the two preceding shows in a materialistic way, the comparative prosperity of the trade reflecting itself in the stands. The Stanley was the greater gainer, of course, there being an increase in the number of exhibitors and exhibits, partly due, of course, to further accessions from the adherents of its rival. But what the National show lost in this respect it partly made up for in the better showing of those remaining.

At the 1899 shows the "free wheel" was the distinctive feature, while at those of a year ago the cross frame occupied an almost similar position. In many respects, therefore, the present shows possess vastly more novelty than those immediately preceding. At the same time, there is nothing very startling shown, nothing that had not been almost entirely discounted in advance.

Aside from the features mentioned above, such smaller but nevertheless important matters as free wheels, brakes and change gears filled the public mind. The first named have come to be the rule instead of the exception, the second is still the subject of deep study, and considerable activity is apparent, while the third has hardly begun to be assertive. In other constructional details there is some movement, but not enough to attract any great amount of attention. British conservatism sees to it that innovations—particularly if they smack of transatlantic origin—are accorded scant consideration.

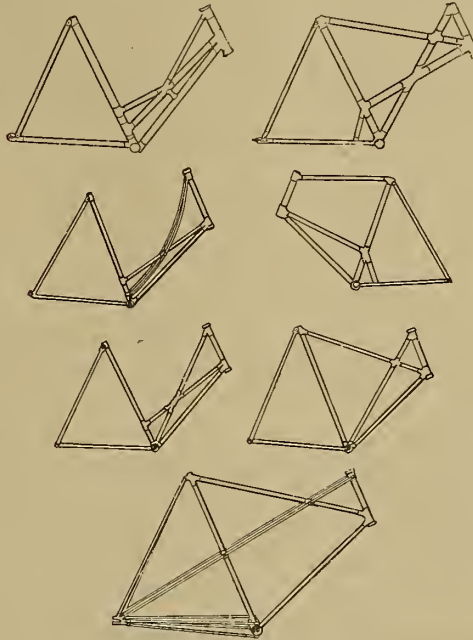
Perhaps the most striking example of this—even more striking than the increased determination to stick to the designs which appear to please the British public—is found in chainless machines.

These are shown by only two firms—the Quadrant and the Acetene companies. The former is said to be very successful with its type of chainless, but it has the business almost to itself, and it is likely to continue to be the sole British apostle of the chainless cult, just as the New Rapid Co. is of the long crank idea. There is, apparently, a deep seated indifference to the subject, neither trade nor public appearing to care a jot whether the chainless drive is superior to the accepted type or not.

If one be inclined to criticise the tendency of the British rider to load down his machine, in marked contrast to the severe simplicity that characterizes the machines produced in this country, it is well to remember that these are healthy signs. Indifference

and simplicity have gone very far here, and of the two extremes it is not certain that the American way does not suffer by comparison.

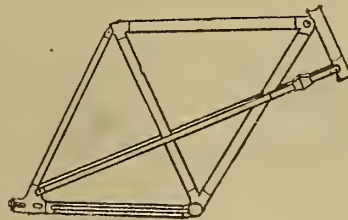
Certainly the British maker cannot be accused of stagnating. Whether he makes changes of his own volition or in obedience to the prodding of the public, he does accomplish something. He has settled that free wheels should be standard and has



TYPES OF CROSS FRAMES

made them so. Whether there is anything in the cross frame or the spring frame, which of the types of motor bicycles possesses the greatest number of advantages, how far the fitting of brakes should go and where it will stop—these and a dozen other disputed or admitted matters are at least in process of settlement.

In the regulation bicycle the featherweight is the newest thing, if not the most promi-



THE JAMES SPRING FRAME.

nent and startling. Under the lead of the Centaur Co., considerable progress has been made in the direction of lightening the over-weighted British bicycle. It has been accomplished not by adopting any radical measures, not by effecting changes in construction, but by eliminating unnecessary weight wherever an ounce of it could be found. As this paring process comes after years of comparative indifference to the weight question, it has not been found difficult to find places where the pruning knife could be wielded to advantage.

Of course, nothing really remarkable has resulted. To turn out machines ranging from 20 to 25 pounds is something that any wideawake maker can do, and this is just what has been done. To be sure, brakes, guards, free wheels and other weight producing fittings are found on many of the machines, but almost invariably such machines, which as yet form but a small proportion of the total number, closely approach the 25 pound mark or even exceed it. Nevertheless, it is extremely creditable to lop off wellnigh half a dozen pounds without weakening the machine or robbing it of comfort and safety giving appliances.

The same good work has proceeded in the matter of drop frame machines. Many weak women will accomplish better results in consequence of the scaling down that has taken place, and the result cannot but be of benefit to the entire trade.

It has been frequently remarked that the regulation British frame was strong enough and rigid enough and to spare. But there is a difference of opinion regarding this, and in a dozen or more varieties of cross frames the battle is being fought out. Side by side with them are found spring or cushion frames, among the latter the well known Hygienic, shown by the Components Co.

"You pays your money and you takes your choice," and if any doubting buyer cannot make up his mind between the cross and the cushion, he has the choice of the James combination cross and spring frame.

As will be seen by the cut this is a true diamond frame, with two supplementary tubes running from the rear fork ends to the lower head. These tubes are broken and have springs inserted in them just back of where they enter the head, while there is a hinged joint just back of the upper head; in this manner the shocks transmitted by the front wheel are partly absorbed by these springs.

As to cross frames proper, pretty nearly every possible combination has been used. The disposition of the tubes is positively bewildering. The extra tube or tubes—for sometimes it is split—are made to do duty in about every possible position, and it will be very strange if the object sought is not obtained or even exceeded in some of them.

Of free wheels there is almost no end. As has been stated, they form the standard equipment now, so favorable has been the verdict pronounced on them.

The devices of English make have come to be coasters alone in nearly every case. They are used, of course, in conjunction with either back-peddalling rim or band brakes or with those of the hand operated variety. If the attitude of the trade is correct, the British rider does not want or is afraid of coaster brakes as used in this country—that is, devices with hub contained brakes. Of the coasters themselves, they are divided between the pawl and ratchet and the roller clutch types, and in practically every case the coasting is done on a supplementary set of ball bearings.

(Continued on page 228.)

ORIENT BICYCLES

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The Orient line for this season is a winner.
Eight elegant models ranging from \$30 to \$50.

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New
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WALTHAM MANUFACTURING COMPANY
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Equal them—If you can.

Investigate the merits of other tires—find out what they are made of, how they are made and how much they cost. Then look up the

FISK TIRE.

It will stand investigation. It will stand comparison. It will stand use. Why? Because it is made right—right materials, right methods of construction.

You cannot find a better tire than the Fisk—you can easily find many that are inferior to it. All we ask is an investigation.

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DETROIT,
252 Jefferson Ave.

CHICAGO,
54 State St.

SAN FRANCISCO,
114 Second St.

THE BICYCLING WORLD

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and MOTORCYCLE REVIEW

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NEW YORK, DECEMBER 12, 1901.

What of the Holidays?

What of the holiday trade? Is it to be let go by the board, or will the trade make an effort to attract in its direction some of the business that is now being done on such a lavish scale?

Christmas comes but once a year, as we all know, and why we should not enjoy some of the good cheer that always goes with it is something that no one can answer satisfactorily.

As long as bicycles are used and Christmas presents are bought there should be a connection between the two.

Time was when this connection would have been established without effort on anybody's part. Gift givers' minds instinctively turned to bicycles, and to this fact the recipient's happy frame of mind was largely attributable.

But it is vastly different now. The wares of the cycle dealer no longer loom large in the public mind, and a reminder has to be administered if they are to be thought of when the question of gifts comes up.

It is obvious that the part of reminder must be played by the trade.

It must jog the mind of the giver when he is cudgelling his brain to think of something appropriate, something needed, something desired, with which to gladden the heart of the giftee.

One half the time the giver has not the remotest idea of what to select. He scans advertisements, haunts stores, seizes with avidity upon likely lists offered by ingenious merchants, and then frequently hits upon something that the recipient does not want.

It may be said that those willing or able to give away bicycles or accessories need no reminder, while those otherwise situated would not pay the slightest attention to one.

The fallacy, and also the futility, of such an argument is very plain.

Did other merchants believe it they would make no effort to attract extra trade, no preparation to cater to it. But it is as plain as a pikestaff that they go on just the opposite theory.

People spend money at this time of the year, sometimes because they want to, at others because they have to. They are fair game for all hunters, and the one who has the longest gun or the best aim will be most successful in bringing them down.

The Good Names That Endure.

In the evolution that is bringing about the survival of the fittest one thing is becoming manifest: those manufacturers who realized the value of a good name, and who made theirs valuable, have cause to congratulate themselves.

On the other hand, those who, with small thought of the future, were carried off their feet by the "easy money" which came of manufacturing goods which were marketed under the names of the purchasers, are feeling the pinch. Evidence to that end is accumulating daily. These makers builded only for the present. It was such an ideal condition to manufacture only for a few big people, to carry only a few accounts, and those all safe risks; the saving of the costs of advertising and travelling and other expenses that are entailed in creating and maintaining a reputation, were other items affecting the pocketbook and that appealed to the self-satisfaction of this class of manufacturer. It led to the erection of factory additions and the enlargement of factory facilities, and so long as the demand gave no indication of substantial abatement all was roselike.

But when the pinch began to make itself

felt, and the few big purchasers feeling it began to lose interest in the bicycle and all that pertains thereto, sought goods that sold more readily and promised larger or quicker returns, their purchases diminished or ceased entirely, the thorn in the rose began to prick.

Having made their own name and their own wares of little or no worth, and having little or no reputation of their own, these makers, if they have not been left high and dry on the beach, are dangerously near it; their large factories and facilities are in the nature of elephants on hand, and unless new fields of manufacture can be found the embarrassment must continue.

While a portion of the trade is thus discomfited, those manufacturers who were not content to hide their light under a bushel and let the morrow take care of itself—that is, those manufacturers who advertised and reached and made their goods known not only to the so called "big people," but to the smaller ones as well—are reaping the reward of their foresight and persistence.

When the common people are not carried off their feet by a tidal wave of enthusiasm they are not given to rash investments; they give a thought to results and to the future, and when this is the case it is the article of known reputation that obtains its due. All of the people cannot be fooled all of the time, and a good name appeals to the great multitude who, perhaps, have been fooled some of the time.

This state of affairs has about been reached in the cycle trade. The "good name that endures for ever" is counting for more than it ever counted before.

Critics Brought to Book.

Ever since the American bicycle and cycle material became a serious competitor of the British productions the British press, while patriotically lauding its own wares to the skies, have consistently assured the world the American article was a shoddy creation and one to be despised, or, at best, to be damned with faint praise.

Germany's products are frequently bracketed in the statement, and if these purblind critics are to be believed it is Great Britain only that can and does turn out a really high class bicycle, and only Britons who can appreciate a bicycle of the sort.

Even the last issue of the mildest of these critics, the Irish Cyclist, states gravely that as a result of price reductions there has been "wholesale reductions in the quality of American goods with very few exceptions."

Americans, it states further, "are now condemned to ride bicycles inferior in every respect, the majority of American firms at the present day having lost the art of turning out a really good machine."

The queer feature of such steadfast damnation of the American bicycle is that it is confined almost wholly if not wholly to the British Isles. It is so rarely heard in any other part of the world that the inference is unavoidable that it is only an Englishman who has sufficient intelligence to build and to know a high grade bicycle when he sees one; it follows as inferentially that the rest of the world are fools.

But our own experience that riders are using their bicycles longer and getting as much if not more satisfaction than ever before is being duplicated in other countries. Thus the most recent issue of the *Bicycling News*, of Birmingham, publishes a communication from a firm in New South Wales which bears directly on the English belittlement of American goods, and which is calculated to make the critics' eyes blink.

"You English business people need something to stir you up, as there is no doubt the Americans leave no stone unturned to cater for foreign trade, and it is not a matter of waiting the convenience of being supplied, as many English houses seem to think, but of being supplied promptly and well," says the Australian house in question. "The writer notices many paragraphs in the cycling press re the inferiority of American products; but our experience tells us different, as we find many of the latter quite as good and cheaper than the home article—notably spokes, chains, saddles and tires—and some of the high-grade American bicycles are second to none, and I speak from a workshop experience of nearly ten years."

While this is in the nature of good advice, it will probably be of as much effect as is water on a duck's back; the average Englishman, judged by his publications, appears to find enjoyment in deceiving himself.

One of the great troubles is due directly to the methods of many foreign buyers who visit these shores. They seek cheapness and, of course, have no difficulty in getting as much of it as they desire. The ways of some of these buyers are almost beyond understanding. We have in mind a London buyer who was recently here. With any number of reputable houses in New York with which to deal, he did business with the most notorious cut-throats in all America, a house whose very name reeks with cheap-and-nastiness, and whose stock is made up

almost wholly of nameless and obsolete job lots.

In this country a man can purchase pretty much any grade of anything he may wish, and it is no secret that some of the English buyers are the most consistent seekers after cheapness. The one we cite is an example of the sort.

Where Does the Shoe Pinch?

It is a little odd that at this late day some of the strongest fulminations against the British doctrine of free trade ever emanating from persons connected with the cycle industry should be launched.

At the present time the cycle trade in the United Kingdom is decidedly more prosperous than it has been for a number of years, and there is every indication that this condition will continue to prevail and even to show further improvement. Certainly there is less ground for complaint than for a long time.

Yet here is the president of the Cycle and Motor Trades Association protesting against the present system, and the *Cyclist* in a long editorial attacking that cherished British institution, Free Trade, even more savagely.

Can it mean that the foreign competition shoe is still pinching? It seems scarcely possible. American and German cycles and parts are still shipped to Great Britain, but there has been no increase such as would call forth cries of anger and pain. On the contrary, the British makers are doing more toward holding their home market than for some time past.

The only other hypothesis is that the British maker desires to secure his old time ascendancy throughout the world.

In the furtherance of this design he imagines that the British policy of free trade is a hindrance rather than a help. We put up no barriers, they seem to say, and instead of similar complaisance on the part of other countries we are met with an impassable tariff wall. If we can't tear the latter down, the next best thing is to erect a similar one of our own.

The fallacy of this argument is so apparent that the wonder is that it is not at once seen.

Free trade is only for nations that are able to compete on equal or superior terms with the world, or which desire the admission duty free of non-competing articles that they desire to purchase cheaply.

As long as Great Britain was able to produce better or cheaper goods than any one

else she defied competition, and at the same time profited through free trade, inasmuch as she got cheap raw materials and food-stuffs.

When that superiority disappeared, when Germany and America achieved equality, or almost equality, the position was altered, but not reversed.

The abandonment of the free trade policy would not help British manufacturers to recapture lost markets in foreign countries.

The only effect of an imposition of tariffs would be to more effectually conserve the home markets. No other country would abate one jot or tittle of its tariffs, and the embargo on British goods would be just as effectual as before.

Is the British cycle trade constrained to confess that it needs help? That it can keep foreign cycles from driving British cycles out of Great Britain only by erecting an impassable tariff wall?

If so, it is in a worse condition than our own trade; for if our tariff were wiped out to-morrow no British manufacturer could obtain a foothold here.

Because the *Bicycling World* pointed out that the American trade is permitting its export business to slip between its fingers and urged that some heart be thrown in an effort to regain or retain it, *Cycling*, of London, suggests that "the eagle is getting scared." But *Cycling* misses the mark. If the eagle really was frightened he would do something. He would either run or fight back. As it is, he is doing neither. He has simply laid down and is letting the drift of affairs carry him pretty much how and where it will.

It is rather rough on the trade of this country that the only essentially American exhibitor of bicycles at the English cycle shows was a Chicago mail order house—the same that gulls the unsuspecting peoples of two continents into believing that the house in question manufactures its own bicycles, which it does not do. The only balm afforded is that the particular exhibitor is not the worst of the mail order concerns.

When all of 12,000 New Yorkers will wait until midnight for the start of a six days' race, and remain for hours afterward, interest in cycling cannot be so "dead" as the calamity howlers would have us believe.

Will the return to one-inch tubing bring with it a return of even a measure of the prosperity that ruled when it was before the vogue?

NATIONAL BICYCLES

Lowell, Mass.,

November 18, 1901.

Your wheel has given us the
best results and

THE CHAINLESS IS THE VERY BEST CHAINLESS ON EARTH.

When your traveler comes he will be welcomed, and we, no doubt, can
continue our pleasant relations.

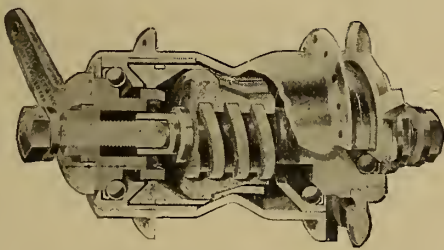
Yours truly,

L. W. McKAY & CO.

"Good Bicycles Only"

NATIONAL
CYCLE MFG. CO.
BAY CITY MICH.

SIMPLICITY



The IDEAL

in any mechanism is the simplest possible form.

The **CINCH**, "THE ONE THAT COASTS," fulfils this requirement among Coaster Brakes. There are but THREE PARTS of the

driving, coasting and braking mechanism—but three pieces more to handle than are in any ordinary hub. It operates perfectly, performing each required action in a superior manner.

RUNS THE SEASON THROUGH WITH A SINGLE LUBRICATION.

RIGGS-SPENCER COMPANY,
MANUFACTURERS,
Rochester, N. Y., U.S.A.

FOR GREAT BRITAIN:
RIGGS-SPENCER COMPANY,
5, 6 and 7 Singer St., Tabernacle St.,
LONDON, E. C.

SOLD BY DISCRIMATING DEALERS.

(Continued from page 226.)

The coaster brakes of American manufacture are well represented. The Morrow, the Barwest, the New Departure, the Universal and the Cinch constituted a representative gathering, and should, one would think, bear conclusive evidence that it is quite possible to have an efficient and reliable hub-contained dual device.

The tire brake, of course, has gone out of fashion. The band and the rim types have taken its place, and infinite variety and marvellous ingenuity are displayed in their design. A marked feature of both shows is the number of thumb-operated brakes exhibited. At this distance it looks as if this development was about two-thirds fad and one-third legitimate. Immense power is said to be obtained with some of these brakes, in spite of the limited strength at the command of the rider, and there is certainly something to be said for them on the score of convenience.

Average Profit \$1.70 Per Bicycle.

Profits of British cycle manufacturers are anything but large, in spite of the undeniable improvement that has taken place this year both in the volume of business and the prices obtained. President Frank Bowden of the Raleigh Cycle Co. and of the Cycle and Motor Trades' Association touched on this subject at the opening of the National Show. He said that it might "naturally" be supposed that cycle manufacturers were making very handsome profits, but such, he regretted to say, was not the case, because a careful calculation, based on the balance sheets of the principal cycle companies issued this year, satisfied him that the average all round net profit per bicycle had been less than nine shillings."

Expressed in Cycling Cipher.

A commercial traveller well known in the cycle trade on both sides of the Atlantic adds this to the collection of jokes on newly-made-happy fathers:

The hero is the manufacturer of the wheel which the narrator sells. Being compelled to go away on a business trip about the time an interesting domestic event was expected, he left orders for the nurse to wire him results according to the following formula: "If a boy, "Gentleman's safety arrived;" if a girl, "Lady's safety arrived."

The father's state of mind may be imagined when a few days later he received a telegram containing one word, "Tandem."—Rocky Mountain News.

First Columbia at Less Than Fifty.

The first Columbia bicycle that was ever listed at less than \$50 is being catalogued for 1902. It is priced at \$40, and is substantially the \$50 model of 1901.

"How to Drive a Motorcycle." See "Motocycles and How to Manage Them." \$1. The Goodman Co., Box 649, New York. ***

CONCERNING CHAINS

Duryea Espouses the Block While Gerrard Accclaims the Roller—Their Arguments.

There is something alluring in the very title of the roller chain.

"Roller" sounds so much better than "block"; it calls up such pleasant thoughts, intimates that the chain rolls over the sprocket teeth, instead of being dragged over them by main force. It is small wonder, therefore, that the roller type of chain has made such inroads on its rival, the block, that it almost monopolizes the automobile industry.

But is this seeming superiority backed up by real merit? Does the roller chain deserve the success it is having? Does it bear out the claims made for it?

That veteran tradesman, C. E. Duryea, does not think so. Writing of the subject, he says:

"The chain question is coming up in importance on the automobile, just as it did on the cycle, and it would seem reasonable to suppose that the conditions which finally decided the matter on the cycle would likewise decide it on the automobile. In the early days of the cycle roller chains were very frequently used, and the future form could not be foreseen. Slowly, however, the advantages of the block chain made themselves felt, and the roller ceased to be used.

"This is a matter of history, and history repeats itself. It is possible some other condition may have entered which will change the verdict in relation to the motor vehicles, but not probable. To the writer therefore, it seems likely that the block chain as against the roller will endure. The roller chain appeals to the public because it has a roller. This suggests freedom from friction, long life, little noise, etc., but the roller chain has more parts than the block chain, and here is where the trouble begins. As soon as the parts have somewhat worn so that dirt enters readily the deterioration of the chain is exceedingly rapid, and this, as much as anything else, killed the chain for cycles, and will probably produce a like result on automobiles.

The block chain is lighter, simpler and silenter than its rival.

"If properly fitted it will give excellent satisfaction for a long time, and on this point much depends on the maker. "Properly fitted" means improperly fitted, and here is where the difficulty begins.

"Any chain, whether roller or block, will stretch a little when first used. It therefore should be fitted to a wheel of larger pitch than its measurement calls for, so as to allow for the stretch, bringing it to proper pitch. If this is done and if the chain is reasonably protected from dirt and properly lubricated, it will give excellent satisfaction. We do these two things by providing our

vehicles with a leather chain case, and, further, we provide each block with a chamber in which is placed an oil retaining felt adapted to lubricate the chain rivets at their centres, insuring at all times proper lubrication and preventing largely the entrance of dirt. Under such conditions the block chain seems perfection itself."

The Reading man should know his book, and what he says on chains must be accorded careful consideration.

But an even more competent authority is C. R. Garrard, the famous English chainmaker, whose firm, by the way, has stopped making block chains, confining its efforts entirely to the production of the roller type. Mr. Garrard puts it this way:

"Let us see why we put the roller: There have been immense quantities of chains made, known as block chains. Now, when the block enters the tooth space it goes to the bottom of the space at one side of it, and during about half a revolution it has to creep under pressure to the other side of the gap or space; then the chain straightens itself and takes it out of the tooth.

"Now, the tooth and the block have very small area of contact, the outside of the block or roller is in the best position for catching dirt, grit, etc., and in actual practice lots of cutting and mutilation have taken place in block chains, and a general abandonment of their use has ensued.

"The roller has the same dirt and grit to contend with, and the same very small area of contact, but the movement does not take place between the outside of the roller and the tooth; the roller sticks and binds on the tooth under the pressure, and its larger and better protected area, viz., between the inside of the roller and the sleeve, gives the movement during the creep under pressure.

"Tests will show that the loss in the turning effort of the roller is only some 55 per cent of that of the block chain (both dirty)."

The wear of the roller chain, to which Duryea alludes, is not touched on here by the English chainmaker. Speaking in the light of somewhat ancient history, the point is well taken. The lack of durability of the roller chain, when, some eight or ten years ago, it was so largely used on bicycles, was the cause of its being displaced by the block type.

But improvements in chainmaking have taken place since then. Durable roller chains have been produced, and they are in almost universal use in England, both on bicycles and automobiles.

The Hendee Mfg. Co.'s Indian motor bicycle attracted its full share of attention at the English cycle shows. Substantial evidence of the fact accumulated in the form of orders for 150 machines.

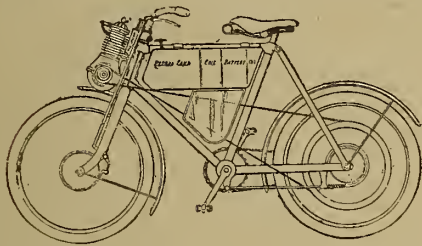
The American Bicycle Co. has "plumped strongly" for one inch tubing. It will be used on practically all of their high grade bicycles.

BRITISH MOTOR BICYCLES

**Brave Display at the London Cycle Shows—
Great Diversity and Many new Departures in Evidence.**

As was expected, motor bicycles constitute one of the chief features, if not the chief feature, of the two London cycle shows, which ran concurrently November 22 to 30. Practically all of the well known manufacturers, to say nothing of a host of unknown or little known ones, had one or more of the machines on exhibition; three American productions, the Mitchell, the Auto-Bi and the Indian were among the number.

There are a few motor tricycles, tandems and quads in evidence, but the bicycle is the machine that is in the trade eye. While the majority of them are little more than ordinary bicycles adapted to receive foreign



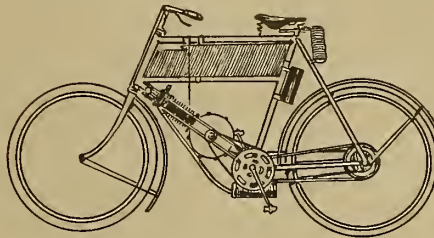
ENFIELD.

made Minerva motors, there are a number in which some originality is displayed. Without reference to the Singer, in which the motor and other driving mechanism is inclosed in the rear wheel, there are several attempts at applying a motor to a lady's bicycle; Bayliss, Thomas & Co.'s Excelsior, for instance, is not half bad, as the accompanying illustration will serve to indicate. The motor, provided with a float feed carburetter of the Panhard pattern, is secured to the lower tube, and is cleverly concealed by an artistically decorated shield or guard; the petrol tank, of shape to fit, is stowed in the angle formed by the rear fork stays, while the battery and levers are secured to the head tube and within the two tubes forming the frame. Incidentally, Bayliss, Thomas & Co. showed twenty-four motor bicycles in all. The Riley Cycle Co. also show a "first"—the first spring frame motor bicycle.

The Raleigh Cycle Co., Ltd., exhibit two motor bicycles of the Werner class, each driving the front wheel. The motors, one of which is a genuine Werner and the other a Daw, are each provided with a large lubricator, between which and the crank chamber is a hollow cock. When the handle is turned upward this cock receives one charge of oil, and the lubricator can be filled up, and then holds four more similar charges. When the cock is turned around the oil it contains is

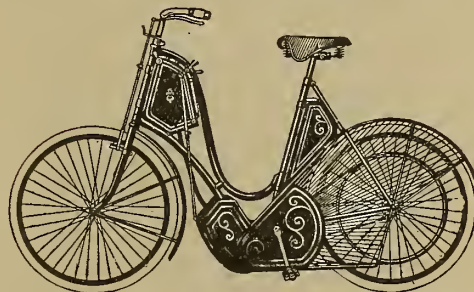
discharged into the crank chamber, and at the same time the supply from the lubricator is cut off. As the cock is reversed again, so it receives another charge, which is held in readiness to be discharged into the crank chamber when required.

The Holden motor bicycle, recently described in the *Bicycling World*, is also to be

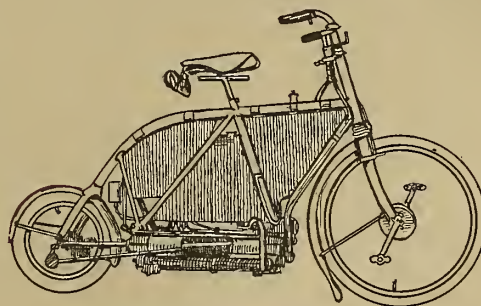


HUMBER.

seen. The motor is a four cylinder horizontal one of 3 horsepower, and is water cooled. The cylinders are arranged in the form of two tandem engines side by side, and each pair of pistons is connected to a rod common to both. Thus the explosion in one cylinder drives the opposite piston back against

EXCELSIOR
LADIES MOTOR BICYCLE.

the compression, so that the engine is well balanced and is practically air cushioned, thus greatly reducing vibration. The piston rods are connected by coupling links to cranks on the rear wheel of the machine, which wheel has a fixed axle with cranks on the outside of the bearings in the fork ends.

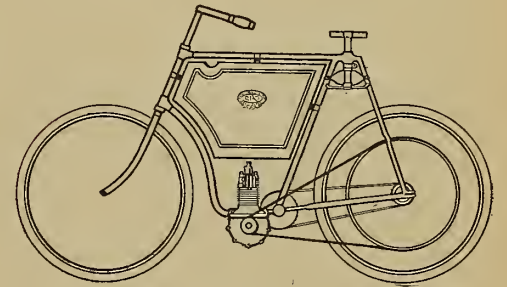


HOLDEN.

The wheel is very small, as it must be, having regard to the fact that it is driven direct; but it must be remembered that the motor is a slow speed one, running at only 500 revolutions per minute. Electric ignition is arranged to fire each cylinder alternately. Ample lubrication is provided by a special arrangement driven by a small belt from the half speed shaft, a few drops of oil being constantly applied to each cylinder. The front wheel is driven after the manner of that of

the ordinary Bantam, Crypto gear being employed; but, as the pedals are some distance in front of the rider, comfortable footrests are fitted to the machine on each side. The motor starts so readily that the pedals are not necessary and will be abandoned, as the machine will start on a hill of 1 in 10 without them, and merely by pushing it at a walking pace. Now, the question arises whether this machine is a motorcycle or a car. Lawyers are chuckling and standing each other drinks in anticipation of the good time coming.

One of the neatest motor bicycles in the shows, and one of those which appears to be designed on most mechanical principles, is the Royal Enfield. In this the motor is of the Werner pattern, but the bearings are larger, and the crank chamber is divided horizontally, a plan which allows split bushes to be used, thus giving a possibility of adjustment. The engine is placed high up in front of the steering socket, and is attached thereto instead of being secured to the fork crown and handle bar, as in the Werner. This allows the back wheel to be driven by means of the ordinary belt, but I



RILEY.

think that the company make a mistake in crossing this. Having regard to its length, there is much fear of the belt slipping. Of course, there may be reasons for the reversal of the motor on account of the gyroscopic action of the flywheels; but, bearing in mind the height of the engine from the ground, this action may well be disregarded, although it may have some advantages in the case of those machines in which the motor is low down. Strange to say, in these latter cases the plan is not adopted. The Royal Enfield is fitted with a powerful hand brake on each wheel, that on the driver being applied by back-peddalling.

The Mitchell motor bicycle, which is marketed here by Davis, Allen & Co., is to be seen on several stands, and the position of the motor, high up in the fore part of the frame, is finding some favor. On the other hand, it was an opinion that a motor so placed is necessarily inclined considerably, and therefore may be called upon to work like a horizontal engine.

Vertical motors are certainly coming in, and the new rear driving Werner (described in last week's *Bicycling World*) indicates this. In this case the motor is bolted literally between the crank bracket and the down tube, the crank chamber being directly in front of the bracket, the front tube connected to the forward part of the motor. The cyclin-

der is actually vertical, but the motor is not so low as many of the Minerva types.

Humber, Ltd., show four motor bicycles; three are of the Minerva type, and do not call for special description, but the fourth contains several features of novelty. The front bottom tube is replaced by four members, tubular at the ends and solid as to the centre parts. These solid parts are arranged around the cylinder, which lies parallel to them, and serve to secure the cylinder, crank case and head together. The bearings of the crank shaft are also mounted on these four members, the crank case being a mere box to inclose the flywheels and carry lubricating oil. A sprocket pinion is mounted on the motor shaft by a spring clutch, and transmits its motion to a double chain wheel on the crank axle. The smaller part of this chain wheel communicates with a chain wheel on the back hub by an endless chain. The ordinary pedal chain gear is fitted on the other side. Free wheels are fitted to both the driving systems, and, if desired, the motor driving gear can be thrown out of action by a catch, so that the rider can stop the motor on running down hills, and he can also pedal the machine without driving the motor. The two main chains are of the same length, and are interchangeable. An automatic compression tap is fitted, which acts during only half the stroke, so that the machine is always ready to start when required. The same rod serves in place of one electrical wire, and also advances and retards the ignition. Only very short lengths of the wiring are exposed, and the circuit is broken by merely lifting the brake lever, so that the machine is very readily stopped.

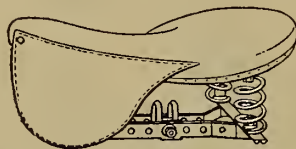
Thomson, James & Heard, Ltd., makers of the Mohawk, are strong on the cross frame method of cycle construction, and they have carried this into their making of motor bicycles. The motor is arranged in the lower triangle above the bottom bracket, and the driving gear is on the Derby system—that is, by means of a chain driven pulley rotating in contact with the back wheel. The free wheel and back brake are provided by the New Departure coaster hub, and a rim brake is fitted to the front wheel. The tanks are set in the panel of the frame above the motor.

In the Ormonde the motor is clamped behind the diagonal tube, and drives the rear wheel through a belt. The tanks are arranged in the usual position under the top tube, and a spray carburetter with float feed is employed. An exhaust valve lifter to be operated through a Bowden wire by twisting the right handle is in course of preparation. The contact breaker is of the pure make-and-break type, the end of the blade being fitted with a roller, which takes the wear, but only comes in contact with the projection on the cam, so that the wear itself is comparatively slight. The cylinder is screwed on to the top of the crank case and clamped, making a very close joint.

In general design the Singer motorcycles are unchanged. The motor bicycle is now made with a 28-inch front wheel, lengthened wheel base, lubrication from saddle by pump,

and cock attached to lubricating tank, spring seat pillar, and a very powerful back rim brake applied by a wedge. The toothed wheel gearing is now entirely inclosed in a dustproof case, which not only tends to keep it quiet, but also thoroughly protects it from dirt. The air supply, which requires adjustment two or three times in the course of a day, was originally effected at the engine, and, of course, necessitated a dismount. It is now controlled by a handy little lever on the top tube. In the tricycle, in which the motor wheel is the steering wheel, some clever tandem connections are shown. One takes the form of a bicycle saddle behind the main axle. The rear rider is supplied with pedals and free wheel, so that he and the steerer can work if necessary. This enables a high gear to be used without difficulty at starting. The arrangement is very light and simple. The other, intended for ladies' use, has a comfortable upholstered seat, and an alternative form provides immense luggage carrying capacity.

The Crypto Works Co., Ltd., showed their motor bicycle, on which the motor is clamped by the crank case in the angle of the frame above the bottom bracket, the silencer being



THE NEWEST MOTOCYCLE SADDLE.

directed forward and upward parallel to the bottom tube. A small pinion on the motor shaft gears with the spur teeth on a double wheel mounted on a double ball bearing on the exterior of the pedal crank bracket. The other part of the wheel has sprocket teeth, and is geared to another sprocket wheel on the back hub by an endless chain. No other chain is employed. The back axle carries a clutch, by which the rider may propel the machine and start the motor when required. When the motor gets to work the rider discontinues, or he may help it uphill or under other difficulties. The transmission is decidedly interesting.

Casswell, Ltd., exhibited a variety of motor bicycles; among them is the Frogmore, in which the bottom tube is divided midway of its length to receive a part of the crank case of a vertical motor. Chain drive is employed. The petrol tanks are arranged behind the motor, and feed the same through a positive carburetter. Next, there is a modification of the Minerva motor, in which the cross frame is employed, and additional stays are carried below the frame proper to support the motor on the under side and at the back. The tanks are more neatly arranged in this frame than might be thought possible, and here also a positive carburetter is fitted. The driving is by a belt to the back wheel.

The Progress Co. show three machines in which the motors are also placed vertically, the lower tube being curved downward after leaving the bracket, so that it laps round

the bottom of the crank chamber, and is then carried to the bottom of the steering socket.

King & Co., of Cambridge, show what is probably the most powerful motor bicycle, bar the Holden, in either show. It is fitted with a $2\frac{1}{4}$ horsepower motor, which is carried at the same angle as the Mitchell, resting upon the lower front tube. The head of the machine is made in two distinct parts, and these are connected by curved tubes passing round the cylinder, the head of which passes really through the steering socket. The transmission is peculiar. A belt drives from the motor to a small shaft placed in front of the crank bracket, and beside this pulley is another, whence is a belt to the rear wheel. This plan is adopted to save width, as the outer of the two belts would come in contact with the rider were it carried directly to the driving wheel, and the width of the motor does not allow it to be placed nearer the centre line of the frame. This machine is terribly heavy, as can easily be imagined.

The Hendee Mfg. Co.'s (American) Indian motor bicycle is also on view. This, as you all know, has the motor in the actual frame, the engine forming part of the down tube of the latter. The opinion seems to be that the cylinder is too near the legs of the rider. The drive of the motor is by means of a chain passing over the small gear wheel on the shaft, and thence to a large wheel on the crank axle, while another chain transmits the power to the road wheel. The small toothed wheel seems to me to be likely to cause trouble with the chain; at any rate, that is the general view here. The Crypto Co., Ltd., show a machine with a similar drive, but geared wheels are substituted for the chain from the motor to the crank axle. The engine itself is of the ordinary pattern, placed in the frame.

Apart from bicycles, the newest and most original motorcycle displayed is shown by the Quadrant Cycle Co., Ltd., a novel form of tricycle, which is said to be cheaper than the ordinary type, but is not, according to the list. The back wheel is driven after the style of the "Crypto" machine, brought out years ago. The steering, however, is novel. At each end of the front axle is a vertical piece some six inches long, and from each of these pieces run two pairs of shackle arms, which are hinged on bolts, and are attached by corresponding bolts to the steering sockets proper, which are held parallel with the end pieces of the axle. The steering sockets are kept away from the end pieces when the machine is travelling in a straight course by means of a couple of cams attached to the bottom of the steering posts, and turning with them. These cams engage with rollers on studs from the bottoms of the vertical pieces of the axles. The cams are so shaped that, as the wheels are steered, the sockets held by the shackles are allowed to approach or recede from the ends of the axle. Thus the latter is automatically slanted to the inside of the curve the machine is taking, the amount of inclination corresponding with the sharpness of the curve. In ad-

dition to this, the combined actions of the shackles actually carries the axle over bodily to the inside of the curve, the extreme movement being about an inch. From the centre of the axle a tube rises, the upper end of which passes through what is really the steering socket of an ordinary safety, which the rear part of the machine actually is; but it is tightly locked to this, so that no movement is possible. Through this tube there passes the steering post from the handlebar, the bottom of this post being provided with an arm connected by rods to the arms of the short steering posts in the steering sockets proper. As the axle is leaned over in the action of steering, so it leans the rear wheel and motor. This front part can be entirely removed, and an ordinary steering wheel and front fork be substituted, in which case the machine is converted in a few minutes into an ordinary pattern Minerva motorcycle, for the new type of Minerva engine is the motor employed. The price of this machine is \$375 as a tri-cycle only, or \$390 with the extra front wheel and fork to convert it into a motor bicycle. The same handlebar and brake fittings are used in either form.

In sundries the motorcycle saddle exhibited by Leatheries, Ltd., and shown by the accompanying cut, was about the newest creation.

Leverage of the Leg.

Leg leverage is a negligible quantity, apparently, in the opinion of a Susanville (Cal.) man, who has patented a "bicycle attachment" designed to utilize the force exerted by the upper portion of the leg, as well as that made effective at the end of the leg, that is, the foot.

"To so construct and arrange the seat and the connecting operating mechanism that the weight of the rider will propel entirely or materially assist in running the machine, and also to use the greater and easier leg driving power of the rider at the thighs or upper parts of the legs, thereby making it much easier to run and faster in speed," is the stated object of the invention.

To attain it there is pivoted on either side of the seat post a short lever, connecting at its forward end with a driving rod attached to the crank at the pedal shaft. Adjustably secured to the pivoted lever is a vertical bar having a horizontal pin at the top, the latter being covered by a rubber roller.

It is this roller which rests against the under side of the leg, and, by adjusting the height of the support to correspond with the throw of the cranks and the position of the legs, considerable extra force is added to the downward stroke of the pedal.

By varying the position of the roller supports the rollers can be made to travel through a very small or large arc, with a corresponding decrease or increase of leverage.

"Motocycles and How to Manage Them"; 126 pages, 41 illustrations; cloth bound. \$1. The Goodman Co., Box 649, New York. ***

CONDEMNED THEM

Although he had Never Tried Coaster-Brakes he was "Agin Them."

He had ridden a considerable distance, to judge by the appearance of his clothes and his wheel. He put the latter in the baggage car and walked into the smoker, giving a grunt of satisfaction as he sunk into the soft cushions.

"Do you use a coaster-brake?" the Bicycling World man inquired, after a few general remarks had been exchanged. He had noticed that the machine did not have one of these useful devices affixed to it, hence the question.

"Coaster-brake?" the questioned one repeated. "Not much! I would not have one on my machine, not if some one would make me a gift of it."



NEW YORK BRANCH: 214-216 WEST 47TH STREET

"Don't like them, eh?"

"No, they're no good at all. Just bother you and make your wheel run hard, without being of any use. No, sir; no coaster-brake for me."

"Tried it and didn't like it?"

"Well, no, not exactly. Fact is, I never was on one. But I've heard the other fellows talk about them. They say they're rotten, especially for riding about town. But I never had one myself. Have you?"—this apparently with the idea of carrying the war into the enemy's camp.

"Oh, yes; I have used one for more than two years."

"Well, how do you like it?"

"I would not be without it if it cost ten times as much as it does. It lessens my work by 30 per cent or more, gives me no end of pleasure, and leaves me comparatively fresh at the end of a long ride."

"But you don't want to be coasting all the time. Doesn't it bother you at other times?"

"Certainly not. Why should it? As long as I pedal it is the same as a fixed gear. It is only when I stop that it becomes a coaster or a brake."

"Oh, I don't want any brake. Never use one, as I can back pedal wherever I want to go."

"Of course you can. But did you ever stop to think how much back-peddalling takes out of you? Or how much easier it is to let the weight of your foot do the braking for you? You try a coaster-brake and see how much it saves you. Besides, you can control the machine better, as well as easier, with the device than in any other way. You take my advice and give the coaster-brake a trial, instead of forming opinions regarding it on hearsay. You will never regret it."

Others' Misfortunes his Gain.

While not exactly wishing accidents to happen to the contestants in the six day race at Madison Square Garden, there is one man who is able to bear up under the affliction.

This is "Bicycle" Oliver, the individual who has the repairing privilege at the Garden. Even while condoling with and feeling genuine sympathy for the poor devils who find themselves in need of his services, he cannot help inwardly congratulating himself upon the briskness of business. His season is short, and the harvest must be in inverse ratio to the time spent in garnering it.

The most common complaint of the machines brought to him for repair is tire troubles. Even deducting the quantity attended to by the trainers, the number delivered to Oliver for his expert manipulation is very great. Punctures form the greatest proportion of them, of course, but bursts and cuts figure also.

Broken chains, bent and broken pedals and cranks and handle bars, broken and buckled rims—these form the bulk of the other jobs intrusted to him to be put to rights. At any time during the day or night he is ready to jump right onto the hurry jobs, and the rapidity with which they are sometimes pushed through is marvellous.

A significant feature of his stock in trade is a showing of special handle bars, many of them unfinished. These give the rider two positions, one low for speeding, the other higher to give relief at ordinary times. Many of the men had provided themselves with these bars, knowing well the future need for them, but most of them were not equally wise. For such improvident ones Oliver is waiting.

The Retail Record.

Fergus Falls, Minn.—C. W. Wilson, closed. Paterson, N. J.—Samuel Sorenson, fire loss. Cambridge, Mass.—Frederick Glynn, fire loss.

Downsville, N. Y.—E. V. Merritt has opened a repair shop.

Ithaca, N. Y.—J. W. Owen has purchased the repairing business of Nathan Hanford; the latter will continue to conduct his retail store.

RACING

Despite the hour, a record breaking crowd of 12,000 people saw the riders set out on their six day journey in Madison Square Garden December 9, at 12:05 a. m.

The sixteen teams were composed as follows: Gougoltz and Simar, France; Hall and McLaren, England; Fisher and Chevallier, France; Le Poutre and Muller, Italy; Fredericks and Jaak, Switzerland; Kerff and De Roeck, Belgium; Karnstadt and Francks, Germany; Lawson and Julius, Sweden; Butler and McLean, Boston; Newkirk and Munro, Southern; McEachern and Walthour, Pan-American; McFarland and Freeman, California; King and Samuelson, Utah; Maya and Wilson, Pennsylvania; Babcock and Turville, Metropolitan.

The prize money will be divided as follows: First, \$1,500; second, \$1,000; third, \$750; fourth, \$500; fifth, \$350; sixth, \$250.

The six day race as run at the present time is very different from the old style individual six day racing, where the same men often were on the track twenty hours or more out of the twenty-four. In 1898 the legislature of the State passed a bill prohibiting this style of racing. The law said no man could ride for more than twelve hours of the twenty-four, and from this was developed the present plan of team racing, in which the race is between pairs instead of individuals. Neither man of any team may ride more than twelve hours a day, and if either man becomes disabled his team will be disqualified. The men of the team may, however, split up the time to suit themselves or trainers.

The record for races of this kind is 2,733 miles 4 laps, made by Miller and Waller in 1899. Last year the winners were Elkes and McFarland, who rode 2,628 miles 7 laps. The best record made by an individual in six days is that of Miller, who rode 2,192 miles at San Francisco in February, 1898.

At the end of the first lap Hall, of England, was leading the string. Freeman was the leader at the end of the first mile, his time being 2:27 3-5. In the second mile De Roeck, of the Belgium team, broke a pedal, fell and cut his scalp. His partner, Kerff, replaced him. Before five miles were completed Jones and his partner, Norcotte, declared themselves out of the race. At five miles Freeman led, with Walthour second. Freeman's time was 12:06.

At one hour after the start the teams were all bunched, with McFarland leading. The score was 24 miles 6¼ laps. At 1:20 o'clock McFarland slipped and fell, Samuelson going over him.

The weeding out process which began in the first hour by the quitting of Norcotte and Jones continued all night. The sensational feature in connection with the reduction of the list was the dropping out of three of the most popular teams. First McFarland and Freeman stopped early Monday morning, and without apparent cause; it is freely stated

that they had no idea of finishing, and their appearance was therefore an imposition on the public. Next Kerff and De Roeck gave up, just before noon; and, to cap the climax, Gougoltz and Simar discontinued in the early evening. Simar was the offender, and although he claimed to be ill, everything indicates that he merely developed a streak of yellow and quit without other reason than that he is a quitter. He shirked work from the start, his mate, Gougoltz, having done more than half the riding. The latter was furious at Simar's action, and a fist fight between them threatened.

Four hundred miles were completed at 6:23 o'clock Monday. The time was 18 hours 11 minutes. Several bad spills have occurred, wheels have been smashed and frames twisted. Before daylight there were half a dozen men on the track carrying conspicuously the marks of falls.

This left fourteen teams of the sixteen that started were left at the end of the eighth hour. Thirteen hours after the race began there were thirteen teams left in it, and Karnstadt, wearing No. 13, was leading. A couple of hours later the leaders were thirteen miles behind the record.

The score at the end of the first twelve hours was 7 miles and 6 laps behind the record. Following is the score at 12 o'clock noon:

Teams.	Miles.	Laps.
Newkirk and Munro.....	259	6
Gougoltz and Simar.....	259	6
McEachern and Walthour.....	259	6
Fisher and Chevallier.....	259	6
Maya and Wilson.....	259	6
Butler and McLean.....	259	6
Babcock and Turville.....	259	5
Frederick and Jaak.....	259	5
King and Samuelson.....	259	5
Lawson and Julius.....	259	5
Hall and McLaren.....	259	4
Le Poutre and Muller.....	259	3
Karnstadt and Francks.....	258	9

During the afternoon there was little excitement, no falls and few outbursts of sprinting. The score at midnight (twenty-four hours) was:

Teams.	Miles.	Laps.
McEachern and Walthour.....	494	3
Maya and Wilson.....	494	3
Newkirk and Munro.....	494	3
Butler and McLean.....	494	3
Fisher and Chevallier.....	494	3
Lawson and Julius.....	494	2
King and Samuelson.....	494	2
Babcock and Turville.....	494	2
Hall and McLaren.....	494	0
Fredericks and Jaak.....	494	0
Muller and Lepoutre.....	493	2
Karnstadt and Francks.....	491	7

The record is 510 miles 1 lap.

Between midnight Monday and 6 o'clock Tuesday two more teams dropped out. They were the Italians, Le Poutre and Muller, and the Austrians, Karnstadt and Francks. This leaves four American teams tied for the lead with Chavellier and Fisher, of Switzerland. One lap behind these five leading teams come Babcock and Turville, King and Samuelson and the two Swedes, Julius and Lawson. The Englishmen, Hall and McLaren, and the Germans, Fredericks and Jaak, bring up the rear. The score for the thirty-six hours was:

	Miles.	Laps.
Maya and Wilson.....	719	8
McEachern and Walthour.....	719	8
Newkirk and Munro.....	719	8
Butler and McLean.....	719	8
Fisher and Chavellier.....	719	8
Babcock and Turville.....	719	7
King and Samuelson.....	719	7
Lawson and Julius.....	719	7
Fredericks and Jaak.....	719	5
Hall and McLaren.....	719	5
Karnstadt and Francks.....	710	6

The riders are slowly reducing the number of miles separating them from the record, lost during the first day's riding. At 10 o'clock Tuesday night the leaders were only eight miles behind the figures of 1899, which are a world's record. At the end of forty-eight hours the score stood:

	Miles.	Laps.
McEachern and Walthour.....	956	7
Fisher and Chevallier.....	956	7
Maya and Wilson.....	956	7
Butler and McLean.....	956	7
Newkirk and Munro.....	956	7
Lawson and Julius.....	956	6
King and Samuelson.....	956	6
Babcock and Turville.....	956	6
Fredericks and Jaak.....	956	4
Hall and McLaren.....	956	4

As a curtain raiser to the six day race, the winter indoor cycle season was begun at Madison Square Garden December 7. The twenty five mile professional handicap was won by Kramer in a blanket finish; McFarland, second; Schreiber, third; McLean, fourth. Time—1:06:38. The final heat in the one mile professional handicap was won by Schreiber (35 yards); Krebs (80 yards), second; Leander (80 yards), third; McLean, fourth. Time—2:02 3-5. Billington won the half mile open amateur; Dove, second; Coyle, third; Bauley, fourth. Time—1:08¼. The mile amateur handicap (final heat) was won by J. E. Achorn, jr. (80 yards); S. Sulker (80 yards), second; H. W. Coyle (80 yards), third; J. Hickey (100 yards), fourth. Time—2:03 4-5. Albert Champion, holder of the world's motorcycle record, rode an exhibition mile in 1:27 3-5. Michael, following Champion's pace, rode an exhibition two miles in 3:23 2-5.

They are "coming on" in Japan. Witness this account of the first motorcycle race in the Empire, translated from the Jijo-Shimpo of November 4: "In connection with the bicycle races of Sorin-Shokai, held at the Uyeno Park, Yokohama, yesterday on occasion of the Emperor's birthday, there was inserted a two-mile motorcycle race between the sixth and seventh races. The Thomas Auto-Tri was ridden by Mr. F. B. Abenheim; Thomas Auto-Bi, by Mr. T. Sudo, and Gladiator quad, by Mr. S. Yoshida. Times were as follows: Auto-bi, 5:25; auto-tri, 6:32; auto-quadri, 8:03. Finally Mr. Abenheim rode on the auto-bi one mile in 2:42. At this meeting a great interest was shown in the machines, which were view by thousands."

"The Motor: What It Is and How It Works." See "Motocycles and How to Manage Them." \$1. The Goodman Co., Box 649, New York.

"MISTAKES" THAT PAY

One of the new Hooks Used by Mail-Order People to Catch "Suckers."

"Are you 'onto' the latest play in the mail-order game?" queried the man from Toledo.

"Which one?" asked the Bicycling World man in return.

"Why, the intentional mistake which they turn to their profit. Haven't heard of it? Well, it's a good one and worth knowing. The mail-order people have made the same 'mistake' in thousands of cases, and it is paying them well. It's this way: Hiram Hayseede orders one of their models 43, price \$14.28, let us say. They ship to him on 'ten days' trial, free,' that is, C. O. D., one of their models 23, price \$17.28. When it is received Hiram promptly raises the usual howl—model 23 is not what he ordered.

"By return mail comes a smoothly worded letter from Mail-order & Co. frankly acknowledging their error. As model 23 is worth \$3 more than model 43, they request Hayseede to return the bicycle to them, when they will at once make good. As a postscript to their letter the mail-order people add something like this: 'As you have probably tried the bicycle we will be obliged to sell it as a second hand; if, therefore, you wish to keep it, we will let you have this high grade model for \$15.28, but \$1 more than the cost of the cheaper model.' They tell me this bait is swallowed in nearly every case; in fact, in many instances the yaps did not remove the wheels from the express office until this letter arrived; then they lost no time in taking them out of the crates and riding them around the depot in order to make them second-hands.

"I understand that the mail-order house has raked in thousands of extra dollars with this scheme, and made a handsome present to the con-man who thought it out. You know they have four or five highpriced chaps who are paid big money for figuring out just such con-games as this one."

The Chainless That's Different.

Of the new models that made their appearance last year, it is well known that than the National chainless none scored a more emphatic "hit." The current year served to further the success which 1902 is certain to carry to a greater height, since its makers, the National Cycle Mfg. Co., will feature it even more prominently, four models being listed.

"The theory of the chainless bicycle has never been successfully attacked, but in putting the theory into practice," they say in dealing with the subject, "the many defects in the design and manufacture of the fittings by means of which the gears were built into a bicycle have caused endless dissatisfaction, annoyance and expense. Two years ago we experimented extensively with the chainless bicycle, using the fittings of

first one and then another manufacturer. They were radically different from each other, but neither satisfactorily answered the requirements. We demonstrated that they were defective in their design and could not be made to satisfactorily do the work demanded of them. Obviously the only thing to be done was to design and manufacture for ourselves a set of fittings which would give satisfactory service and properly support the gears. As a result, the National chainlesses, like all Nationals, have an individuality all their own—there are no others like them. They are exclusively National, both in design and manufacture; and, best of all, they serve their riders as satisfactorily as the chain models."

Goods are Well Named.

It is not necessary at this late day to expatiate at length on the quality of the goods turned out by the Ideal Plating Co., of Boston, Mass.

Well nigh one million of their handlebars and seatposts have been sold, and they bear eloquent testimony to their sound construction and excellent workmanship. They are manufactured of cold drawn, seamless steel tubing and solid forgings, drilled and machined to a perfect standard and then ground true to gauge. No castings whatever are used. The nickelling is all done on copper, the nickel deposit being especially heavy and cannot be excelled for wear.

A wide range of patterns is offered for the 1902 season. The plain adjustable bar, first brought out half a dozen years ago, is retained, while the Ideal expansion stem bar and the forward extension types maintain their popularity unabated. The internal binder used on the latter is the wellknown Copeland type, and is remarkably efficient and simple. A wide range of different shaped bars are carried, or they will be bent to order as desired.

Stokvis Takes Issue With Baving.

Editor The Bicycling World:

As one of the subscribers to the Bicycling World we wish to draw your attention to the paragraph in your issue of November 14, "Some Complaints from Holland." As general agents for the American Bicycle Co. we can assure you that the information of Mr. Klaas Baving, of Zwolle, is totally incorrect.

We refer to his remarks about the enamelling. For nearly six years we have been handling Rambler bicycles, and, though we have sold a very great number of them in this country, in not one single instance have we had reason to complain of the enamelling peeling off.

We think that our remarks will be sufficient proof that Mr. Baving's experience is not general.

W. J. STOKVIS, Arnhem, Holland.

"Defects (in motorcycles) and How to Remedy Them." See "Motorcycles and How to Manage Them." \$1. The Goodman Co., Box 649, New York.

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A WONDER ITSELF, IT IS NO WONDER

that the Persons saddle has such a commanding lead. It required ten years of "everlastingly keeping at it" to bring it to its present degree of perfection and popularity. It thus is just about

NINE YEARS AHEAD OF THEM ALL—

of any and all would-be rivals. A lead of that sort is of the unvertakable sort.



One of the simplest, the Persons type is the most difficult of saddles to make satisfactorily, as many who have tried it can attest. We possess the secret. You should possess the saddle if seeking the highest pinnacle of saddle satisfaction.

PERSONS MFG. CO., CHAS. A. PERSONS, Pres't, WORCESTER, MASS.

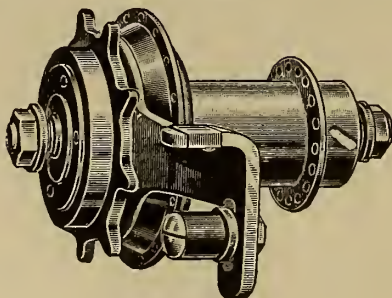
THE SAME FEATURES THAT IMPRESSED THE JUDGES

at the Pan-American Exposition and led them to single out

The Universal Coaster Brake

as meriting the highest possible award

SHOULD APPEAL TO YOU.



IT IS Our Business

to inform you of these features, and we will be pleased to do so at any time.

IT IS Your Business,

or at any rate, it would seem sound business policy for you to seek just such information.

UNIVERSAL COASTER BRAKE COMPANY, Buffalo, New York

FACTORY LEAKS

Stintage of Small Tools one of the False Economies—How it Works out.

The incidentally overheard remark of a new employe to an older hand a few days ago has set me thinking on a subject of no small importance in machine shop economy, says a contributor to the American Machinist. After expressing surprise at the meagre supply of small tools obtainable, he went on to say that he noticed that most of the tool-makers appeared to have a little private tool department of their own!

Now, is not this often the case, and should it be so? Is it a wise plan if a counterbore, arbor, reamer or what not is required, to have a man stop on his job to make it and when done with it to put it in his drawer? I think no one will admit this, yet it is done in a great many shops daily.

Even supposing he turns it into the tool-room, it is probably made hurriedly, out of any piece of scrap stock handy, with special reference to that particular job and not likely to be very useful on others. In other words, it is not made in harmony with that class of tools to which it belongs, in proportion or style. Would it not be better to have on hand such tools of which the use could have been foreseen, made preferably by those in the business—for these are days of specialists—or, if home made, designed in reference to others of its class, either by existing and readily obtainable formulas or by good example, marked and finally stowed away in appropriate places provided for them, where they are readily accessible to any and all who properly have use for such a tool?

It is true that sometimes it will be necessary to have a tool so special in its character and proportions that it will not agree with the ordinary, but these cases are comparatively few, and even then the proper depository is the toolroom, where a record should be kept of everything, giving its various dimensions, purpose made for, where kept, and any other data considered desirable.

The private hoarding of small tools is not usually done for a selfish purpose, as it might at first seem, but rather may be regarded as a quiet, though expressive, commentary on the tool system—or lack of it—in vogue; if the tool is in a workman's drawer, he knows where it is, and there, safe from abuse or loss, it will be found when again wanted, either to be used by himself or loaned.

Just how far into this question of the economical purchase or providing of small tools one is to go must needs be decided by each shop, according to its own particular purposes and ideals. Not long ago I was told by a representative of a prosperous concern that their small tool equipment had cost

quite as much as their machinery; true, it was not a large establishment, yet there is considerable food for thought in the statement.

Reminiscently, it may be stated that thirty-five years ago twist drills and drill chucks were just becoming known; taps, dies and screw plates were yet mainly of foreign manufacture, and there existed no reliable standard regarding either pitch or diameter among them. A few stores carried a limited assortment of wire in coils, a few sizes of tool steel, sheet brass, carriage bolts, rough nuts and the like, both in quality and quantity entirely inadequate for modern purposes. Hardened, finished nuts, set, cap and machine screws were unknown to the trade; brass, copper and steel tubing was difficult to obtain, while rods of brass, iron, Bessemer steel and drill rods were not less so. Ready made counterbores, adjustable and standard reamers, plain, angular and formed milling cutters, cheap hacksaw blades, hardened and ground lathe mandrels, patent lathe and planer tools, drop forged wrenches, standard cut gears, screws, files, fine measuring instruments, and scores of other now admitted necessities, were utterly unobtainable from stock and in many cases were unknown; hence it is well to remember that times change, and that what was once strict economy may now be questionable business methods.

The pertinent questions raised are, Would not a moderate investment in solid wrenches be repaid by fewer damaged nuts? Would not more file handles save time in changing from one to another? and Would not a less stinted allowance of waste and oil frequently prevent expensive friction in other things besides machinery? and, finally, Would not a sensible supply of small tools save valuable time, as well as promote the comfort and convenience of the mechanics employed?

Win for the Sole Agent.

In British trade circles a case involving the relations of maker and dealer which has just been decided is viewed with great interest.

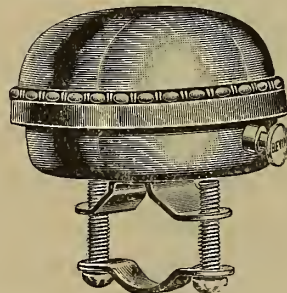
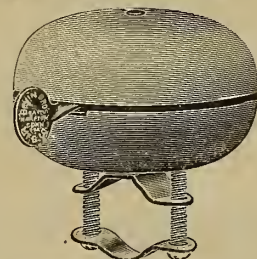
It appears that a Coventry concern which had appointed a Dublin dealer "sole agent" for his district was engaged in supplying another dealer with its machines, under his own name instead of theirs. To this procedure the first dealer naturally objected, and in order to lend his objections weight he refused to settle his account with the concern. Thereupon the latter brought suit to recover the balance of its account, and the dealer retorted by putting in a claim for \$2,500 for alleged breach of contract in supplying a rival with machines when he was the sole agent of the manufacturing firm. After a hearing the jury found for the dealer, awarding him \$300 damages.

Makers who have been doing business of a similar nature are much disturbed at the verdict. As a protective measure some of them are striking out the word "sole" in their contracts, and to this the dealers are naturally objecting.

They Ring Their Own Praises

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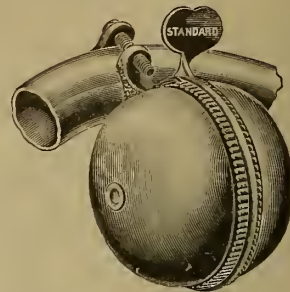
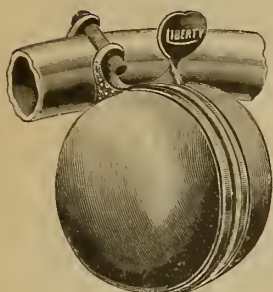
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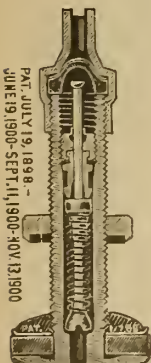
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The Week's Patents.

687,876. Cushion Tire. James E. Furlong, Providence, R. I. Filed July 5, 1901. Serial No. 67,165. (No model.)

Claim.—1. The improved elastic and compressible tire for bicycles and other vehicles herein described, consisting of a body portion cylindrical in exterior shape and provided with an interior, continuous, longitudinal bore near one side thereof, a longitudinally arranged series of air cells, and a passage opening from each of said air cells into said longitudinal bore, substantially as specified.

688,199. Tire Valve. George H. F. Schrader, New York, N. Y. Filed Feb. 12, 1900. Serial No. 4,899. (No model.)

Claim.—1. A top repair valve for pneumatic tires and the like consisting of a shell, a seat member, and means for holding the seat member removably on the mouth of the shell, in combination with a valve proper within the shell and free to move therein and movable partially out of the mouth thereof, but held against separation therefrom when the seat member is removed.

688,262. Free Wheel Clutch and Brake. Reuben W. Perry, Waltham, Mass. Filed Oct. 27, 1900. Serial No. 34,590. (No model.)

Claim.—1. An automatic driving clutch comprising outer and inner relatively rotatable members, one being toothed and the other having one or more pockets, a prismatic locking dog having equal flat sides and occupying each pocket and adapted to positively lock the members together and means for yieldingly projecting the dog into locking position.

688,263. Back-Pedalling Brake. Reuben W. Perry, Waltham, Mass. Filed Oct. 27, 1900. Serial No. 34,591. (No model.)

Claim.—An automatic driving clutch comprising two relatively rotatable clutch members, one of said members having pockets and abutments independent of the walls of the said pockets and the other member having teeth or projections facing in a direction opposite said abutments, a series of independently movable locking devices, adapted to be positively locked between said abutment and teeth, and a single spring bearing yieldingly against said locking devices in a direction away from the bottoms of the pockets.

DESIGNS.

35,391. Bicycle Frame. Frederic I. Johnson, Fitchburg, Mass., assignor to Mary Elizabeth Johnson, Fitchburg, Mass. Filed Oct. 28, 1901. Serial No. 80,349. Term of patent, 7 years.

Claim.—The design for the bicycle frame as herein shown and described.

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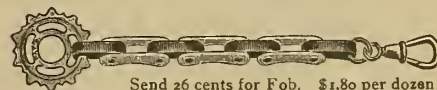
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The Bicycling World

AND MOTOCYCLE REVIEW.

In which is incorporated "The Wheel and Cycling Trade Review" and the "American Cyclist."

Volume XLIV.

New York, U. S. A., Thursday, December, 19, 1901.

No. 12

TILLINGHAST WINS

Court of Appeals Sustains the Single Tube Patent—Rejects one Claim but it Does not Affect Result.

The Tillinghast patent on single tube tires—No. 497,971, of May 23, 1893—is now something more than "a license to sue"—that common definition of an unlitigated patent. It is a patent sustained by the court of last resort, the United States Circuit Court of Appeals for the First District, i. e., New England.

That tribunal, in the persons of Judges Putnam, Aldrich and Brown, handed down its decree on Thursday last, 12th inst.; to all intents and purposes, and though a couple of "ifs" are employed, it amply confirms the judgment of Judge Colt, of the United States Circuit Court, rendered in November, 1899.

The Court of Appeals differs with Judge Colt in respect to the first claim of the patent, which is rejected because it is too general, but the rejection is of small consequence, and does not in any way affect the strength of the patent as it applies to single tube tires. The opinion of the court is short and concise, as follows:

Per CURIAM. It was not contended at the hearing, either in the court below or before us, that the publication by Boothroyd of December 3, 1890, anticipated the invention in litigation. Neither are we sufficiently advised whether the record is in condition to properly determine such a contention if made. We give no intimation of what our conclusion would be if, in these respects, the conditions were other than they are.

We are of the opinion that Claim 2 fully and correctly represents the invention of the patent, and that Claim 1 is too broad to be valid.

With these reservations, after thorough examination and careful consideration of the record, we concur in the conclusion of the Circuit Court, and with the line of reasoning by which the conclusion was reached.

The decree of the Circuit Court is modified so far as to adjudge Claim 1 invalid, and the case is remanded to that court with directions to proceed accordingly, and the appellee recovers the costs of appeal.

Claim 1, which is rendered invalid, is as follows:

1. A pneumatic tire, consisting of a rubber air tube, and outer covering, substantially as specified, with the ends of the air tube and other component parts securely united by vulcanization, substantially as described, thereby constituting an integral complete tire.

The claim which is sustained, and which is plainly sufficiently specific to cover all types of single tubes, follows:

2. A pneumatic tire, composed of a rubber tube, an intermediate layer of fabric, and an outer covering of rubber, substantially as described, having all its rubber joints and component parts simultaneously vulcanized together, forming an integral annular tire.

The patent has been in litigation for years, the litigation instituted by Colonel Theodore A. Dodge being taken up and carried to its conclusion by the Single Tube Automobile and Bicycle Tire Co., which was incorporated with a capital of \$1,000,000, the week after Judge Colt gave his decision, in 1899.

The suit which has just resulted in the upholding of the Tillinghast patent is the one brought by Colonel Dodge against Fred Howard Porter, of Somerville; Francis Flint, of Cambridge, and Joseph McCune, of Everett, doing business as the Reading (Mass.) Rubber Tire Co. "Lack of novelty and invention" was the chief defence urged; the patent, indeed, was long generally scoffed, being likened to rubber hose, out of which likeness grew the term "hosepipe tire," as the single tube was derisively dubbed.

The brevity of the Court of Appeals' verdict is such that it conveys little information when unaccompanied by Judge Colt's decree in the court below. The judgment which that judge rendered two years ago, and which is now substantially confirmed, follows:

Colt, J. This suit relates to patent No. 497,971, granted May 23, 1893, to Pardon W. Tillinghast, for a pneumatic tire.

The patent describes a single tube pneumatic tire composed of two annular rubber tires with intervening fabric all vulcanized together and forming a complete integral tire having all of its component parts securely united.

Previous to the Tillinghast tire the double-tube pneumatic tire was in common use. It

INNER TUBES UP

Hartford now Takes Pennsylvania into Court for Alleged Infringement.

At about the very moment when the upholding of the Tillinghast tire patent seems in a fair way of settling tire litigation, another suit was instituted—one by the Hartford Rubber Works Co. vs. the Pennsylvania Rubber Co., of Erie. Papers in the case were served on the New York representative of the latter company on Monday of this week.

The suit is for alleged infringement of an inflatable inner tube covered by Patent No. 681,803, granted August 28, 1899, to Frank Mallalieu, of Providence, R. I., and assigned to the Mechanical Fabric Co., of the same place; it became the possession of the Hartford Rubber Works when the latter took over the tire business of the Providence concern.

The tube involved is thus described by the patent: "An inflatable tube provided at its ends with an auxiliary flap folded within the tube, and secured to the opposite wall, and a main flap over the ends of the tube and secured thereto, said main flap having ears at or near the ends of its fold line which are secured to said flap."

Verdict for Van Tuyl.

In the long pending case of Thomas Van Tuyl vs. Homer Young and Edward Hubbell, of Toledo, Ohio, a jury of that city last week rendered a verdict for \$1,122.50 in favor of the plaintiff.

Van Tuyl alleged that the defendants violated the terms of a contract to enter into the manufacture of the plaintiff's patented handle bar. When the case was first tried in common pleas court he got a verdict for only \$100. He took his cause to circuit court, and the judges of that tribunal said the judgment should have been for at least \$1,000.

Eyer Will "Do" New England.

F. H. Eyer, former manager of the Hartford Rubber Works' New York uptown branch, has engaged with C. B. Barker & Co.; he will travel New England.

(Continued on page 267.)

EXTREMES THAT EXIST

Deadly Dulness and Great Activity in Neighboring Cities—Rochester as an Example.

"Can you tell me why cycling should be dead in some towns, while in others it is just as much alive as it ever was?" inquired a tradesman who had been trying to find out why his business had fallen off so greatly.

"To look at New-York or Boston or Baltimore, or a dozen other places, one would hardly know that bicycles were still made or ridden," he continued. "Mechanics, messenger boys and similar classes still use them for business purposes, but even that is done only to a limited extent. As for the vast army of riders that could have been seen a few years ago, anywhere and at any time, it has vanished almost entirely.

"Of course, many people, noting this great change, think that it is the same in every other place. But it is not. While there are plenty of towns where the cycling spirit has sunk to nothingness, by comparison with the height to which it had previously risen, there are many others where it still animates riders and burns almost as brightly as in the good old days of yore.

"I have been making a study of this subject, and have gathered facts which I am now putting together in the effort to reason out the matter.

"There is Rochester, now. Everybody knows that it is, and always was, a good bicycle town. But when I stopped there for a couple of days last summer I was absolutely astounded to see the amount of riding that was indulged in. There were cyclists by the hundred always within sight. In the heart of the business section they almost had the streets to themselves, and were made up of all classes of people. Women were there in large numbers, too.

"At first I thought that this was all business traffic. The riders were clerks and salesmen and work people generally, who used their wheels rather than walk or take the trolley cars, led to do so by the broad, level, well paved streets, I said to myself. The fact that the stream of riders was not materially lessened in the middle of the fore and after noon shook this belief, however.

"Then, when evening came, I was even more surprised. Instead of riding home and putting their machines away, as I expected, the riders seemed to go home, get their supper, and then come out again, and still on their wheels.

"There was really a greater number of cyclists on the street after dark than before. It was just like the days of '96 or '97, when all the world was a wheel and little else was thought of. From the centre of the town to the outskirts there was the same story to tell. The people were riding around for sheer pleasure, and they never seemed to tire of it or to think of going home.

"In none of the towns that I visited was there such an outpouring as at Rochester. But other towns had their hundreds and even thousands of riders, using the wheel for business and pleasure. Buffalo, Toronto and Syracuse, in New York; Springfield, Providence and Worcester in New England—in all of them the number of riders was so large that there could be no doubt of the healthy condition of the pastime.

"Inquiry among dealers made it plain that while the day of big sales—along with the day of big profits—had gone forever, there was still good business being done.

"Now, what I want to know is why this condition of affairs should exist in some places and deadly dulness rule in others. Is it the fault of the trade or of the public? And, what is even more to the point, is it a permanent condition, or can a change for the better be brought about?"

Two Good Men Gone.

An attack of pneumonia, following a long siege of typhoid fever, carried off Leon M. Cabana, secretary of the Buffalo Specialty Mfg. Co., on Sunday morning last. He died early that morning at his home in Buffalo, N. Y., leaving a wife and young daughter. He helped organize the Specialty Co. in 1885, and its growth from a modest beginning was due in no small measure to his energy and aggressiveness; his enforcement of the Never-leak tire fluid patents was an example of his spirit that made him best known to the cycle trade.

George H. Fisher, president of the Gendron Wheel Co., died of apoplexy on Tuesday evening of last week at his apartments in the Monticello, Toledo, Ohio. He was taken suddenly ill after eating, and was soon beyond human aid. He was fifty-four years of age. When the Gendron Wheel Co. was a factor in the cycle trade Mr. Fisher was, of course, a figure, and served as a director of the National Cycle Board of Trade. Of late years, however, neither Mr. Fisher nor the Gendron bicycle had been much heard of.

Humber's Important Innovations.

In the Humber motor bicycle an effort has been made to attain that desideratum: control of the machine without removing hands from the bar. In this case it is accomplished by dividing the grips; that is to say, the grips are in two parts. Thus, by twisting one-half of the right handle the sparking advance is regulated; by twisting the other half of the right handle the exhaust valve is raised; by twisting one-half of the left handle the admission of air is regulated, and so on. Both back and front brakes are also applied through Bowden wires; by a simple connection the act of applying the brake automatically switches off the sparking current.

Work has been begun at Buffalo, N. Y., on a new building to be occupied by the E. R. Thomas Motor Co. The site is on Niagara street, just north of West Ferry. It is expected to be completed by February 1.

THE TRADE IN FRANCE

Visiting Parisian Amazed by American Situation—"Home was Never Like This."

There is little of the typical Frenchman about Victor Breyer, who is now in this country, having come over mainly for the purpose of reporting the six day race for his paper, "Le Velo."

He has the Gallic alertness, and when he begins to talk he is as vivacious as most of his compatriots, while his language is the pure Parisian of the boulevards. But there the simile ends. He is reposeful in manner, knowing how to sit still and keep silent for long periods when the mood seizes him or there is nothing particular to do or say.

"Why has the trade descended to such depths in America?" he inquired of the Bicycling World man one night last week.

The question was not an easy one to answer offhand, and the interrogated one fenced a little and then put forth the contention that the sport had been the first to recover from the depression, and that he thought there would soon be an improvement in the trade, too.

"They tell me that cycling as a pastime is almost a thing of the past," the visitor continued. "That is so? I can't understand it.

"Such is not the case in France. There is just as much riding—both for business and pleasure—as there ever was, perhaps more, only it is no longer a craze. People go at it in a rational manner now. They don't overdo it as they did in the first place.

"There are, I suppose, a million bicycles in France to-day. But then there are forty millions of people. So, you see, there are forty people to one bicycle. But the proportion of bicycles to population is continually increasing. I look to see the time when there will be one bicycle for every ten people—perhaps even more than this.

"All the people who want bicycles are not supplied yet. There are many who would like to have them who cannot afford to buy them, even at present prices. A few of these do manage to obtain them every year, and thus the number of riders is continually increasing. It is not strange that this should be so, for the bicycle is unequalled as a business and pleasure vehicle. Why, at my office, I use my bicycle constantly. It is much easier to get about on it through Paris streets than on any other vehicle, even an automobile."

What is the condition of the French trade, Mr. Breyer? What kind of a season have you had this year?"

"The season has been quite up to expectations," was the reply, "and the trade—what is left of it—is in good condition. You see, it was overdone, too, just like yours. When the boom came everybody rushed in, thinking that to make or sell bicycles was the surest and the quickest way to make money. Of course, they soon learned that they were mistaken, and when the bubble burst there was a great rush to get to cover.

"The big manufacturing concerns, like the Gladiator, Clement and others, are doing very well. They have ample capital and factory facilities, and were able to weather the storm. But the little fellows, the concerns with insufficient capital and little knowledge of or facilities for manufacturing, were forced to the wall."

WHAT SHERMAN LEARNED

Only American at the English Shows Brings Home Some Interesting Views.

George W. Sherman, who was probably the only American who crossed the water to attend the English cycle shows, returned last week. Sherman, as the *Bicycling World* stated at the time of his departure, went abroad in the interests of the Hendee Mfg. Co.'s Indian motor bicycle. His immediate purpose, that of closing a considerable order with English parties, was not only accomplished, but arrangements also were effected assuring energetic representation in Holland and Belgium.

"I expected to learn more than I did about motor bicycles over there," said Sherman to the interviewing *Bicycling World* man, "but there is really little if anything that they can teach us on that score. Practically all of the manufacturers have simply purchased Continental motors and bolted them to their bicycles."

"How did the shows themselves impress you?"

"Impress me? It was better than a tonic. It carried me back to the palmy days we once enjoyed in this country. I didn't suppose there was so much life and interest existing in the cycle trade anywhere. I scarcely believed there were so many cycle manufacturers left in the whole world as there were exhibiting at the shows. My visit in the nature of a revelation."

"Was there anything strikingly new in was in the nature of a revelation?"

"No-o, nothing particularly new; in fact, I could see that many American ideas and designs were creeping in. There were quite a few bicycles that looked mightily like the American models of three or four years ago."

"Did the Chicago mail-order house that was exhibiting attract any great measure of attention?"

"Those ————!"

The language used by Sherman in response to this inquiry, while it fits the case and reflects the general sentiment, is scarcely printable. He did express the belief, however, that the Chicagoan's tricky advertising would sooner or later bring him afoul of the English laws.

"And the Indian itself—what sort of an impression did it create?"

"To tell the truth, it met with some criticism," replied Sherman, with a smile. "They complained that the gasoline tank was not large enough. With their good roads, they go in for longer rides than we do, and as gasoline is not so readily obtainable in the country, large tanks are the rule there."

"How about the batteries? Are not accumulators in general use over there?"

"Yes, and I had several interesting arguments on the subject. I think I convinced several parties that the dry battery is not only better, but cheaper in the long run. It

takes a long time to properly recharge an accumulator, and it is seldom that it retains its strength for any length of time."

"Are not the motors in use rather under-powered?"

"I should say they were! They have been paying high prices for cheap Belgian motors, and they are commencing to realize the fact. Why, from all I could learn, no man over there expects to get up hill without pedaling. But, at that, there will be more motor bicycles sold than will be sold here next year. Why? Simply because practically every manufacturer, large and small, has taken them up and is marketing them. They are not so full of doubt and hesitation as the American makers."

"How do they stand on the belt vs. chain question?"

"They are divided, of course. But let me tell you that no one who has ever had much experience with belts will continue their use any longer than he can help it. They make better belts in England than we do. I saw one of twisted leather and gut that impressed me very much. But there is none that will give satisfaction. Belts will slip and stretch, I don't care how good they are. They are having their full share of trouble abroad. In England they employ no methods of adjustment; they won't use idlers, because they claim they eat up power; and yet they lose as much, and more, by the slipping of the belt. They also run the belt on a soft and a hard metal wheel, and this helps to burn them and to create verdigris. Of course, there, as here, you hear a lot about the jerk and breakage of chains, but it is exaggerated. A man will cut a belt a dozen times or burn and ruin a half dozen different ones—I've been in stores here where there was a dozen or more of them hanging up—and he will think little of it. But if a chain breaks he seems to consider it a calamity."

"I've had nearly two years' experience with belts, and want no more to do with them. Most of the chain troubles are due to the ignorance of the riders. There is no reason why a chain should break if the machine is properly handled. Most of the breakages occur in starting. A man will push the speed lever over, and of course the sudden application of full power causes a jerk and a strain. It would play the devil if the engineer started his locomotive that way; it would break rods and couplings and lift the engine off the track if he threw the throttle wide open. But he does nothing of the sort. He opens it gradually, and attains speed gradually. I can illustrate this in another way. If you ram three fingers of powder into a muzzle loading gun and fire it, the 'kick' will knock you off your feet. If you use but one finger of powder, you will scarcely know that the gun has been fired. The principle is exactly the same. It is the ignorance and thoughtlessness of riders in just such respects that bring them disappointments. If they would only use their brains the gospel of motor bicycling would spread so quickly that the supply would not begin to equal the demand."

NEW LICENSES ISSUED

Tillinghast Decision Brings Tire Trade Together Again—The List.

While awaiting the decision of the Court of Appeals in the Tillinghast patent case, Col. Theodore A. Dodge, president of the Single Tube Automobile and Bicycle Tire Co., was not inactive.

For two months or more he had been engaged in diplomatically bringing together the licensees who had gradually drifted apart and away from the Tillinghast mooring. The result of this work became apparent immediately the verdict of the Court of Appeals was handed down. Almost concurrently it came out that Col. Dodge had "signed up" and relicensed practically all of the manufacturers identified with the tire trade, viz:

The Hartford Rubber Works Co., Fisk Rubber Co., India Rubber Co., Pennsylvania Rubber Co., International Automobile and Vehicle Tire Co., Diamond Rubber Co., Goodyear Tire and Rubber Co., B. F. Goodrich Co., Boston Woven Hose and Rubber Co., and the Indiana Rubber and Insulated Wire Co.

The Kokomo Rubber Co. is the only notable omission from the list, and it is expected that they will join the fold within a few days, as until the last "breakup" they were ever among the most scrupulous observers of the patent.

There are several licensees other than those named, but they are inactive so far as tires are concerned, and cut no figure in the trade.

Signs of Promise.

Indications that the trade is growing more hopeful and that the outlook is taking on at least a suggestion of rose hues continue to accumulate. C. E. Munroe, of the Frank Mossberg Co., Attleboro, Mass., has just returned from an extended Western trip with a considerable bunch of the indications in his possession. He reports having booked orders for bells and wrenches that exceed by fully 50 per cent the business he had done on any previous trip of the sort.

Airless Incorporates With a Million.

Newark, N. J.—Airless Pneumatic Tire and Rubber Co., with \$1,000,000 capital, to place upon the market an airless pneumatic tire, to manufacture and sell motor vehicles, bicycles, bicycle supplies and deal in a general line of rubber goods. The stockholders are George F. Maguire, Herbert D. Cohen and Nathan F. Giffin, all of Newark.

Indianapolis Will Have a Show.

The third week in February is the time set for the holding of an automobile and cycle show at Indianapolis, Ind. Committees have been appointed from the ranks of the two trades, and every effort will be made to make the venture a success.

NATIONAL BICYCLES

Boulder, Colo.,

November 4, 1901.

We are much pleased with
Nationals. So are the riders.

THE CHAINLESS IS PERFECTION.

We are going to make them the leaders in this city for 1902.

Yours truly,

NEIHEISEL BROS.

"The good name that
endures forever is count-
ing for more than it ever
counted before."

—*Bicycling World*, Dec. 12, 1901.

NATIONAL
CYCLE MFG. CO.
BAY CITY MICH.

Equal them—If you can.

Investigate the merits of other tires—find out what they are made
of, how they are made and how much they cost. Then look up the

FIK TIRE.

It will stand investigation. It will stand comparison. It will stand
use. Why? Because it is made right—right materials, right methods of
construction.

You cannot find a better tire than the Fisk—you can easily find
many that are inferior to it. All we ask is an investigation.

FIK RUBBER COMPANY, Chicopee Falls, Mass.

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604 Atlantic Ave.

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916 Arch St.

SYRACUSE,

423 So. Clinton St.

BUFFALO,

28 W. Genesee St.

DETROIT,

252 Jefferson Ave.

CHICAGO,

54 State St.

SAN FRANCISCO,

114 Second St.

THE BICYCLING WORLD

FOUNDED 1877
and MOTORCYCLE REVIEW

In which is Incorporated
the "The Wheel" and the "American Cyclist."

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Members of the trade are invited and are at all times welcome to make our office their headquarters while in New York; our facilities and information will be at their command.

To Facilitate Matters Our Patrons Should

Address us at P. O. Box 649.

NEW YORK, DECEMBER 19, 1901.

Be merry!

If you can't be merry, be as merry as you can

and

Don't let your inability mar the merriment of others—

Rather add to theirs if it be possible:

Such is the spirit of Christmastide.

The Mid-Winter Opportunity.

With practically all of the 1902 models within reach, the cycle dealer who is alive to the occasion will seize the mid-winter opportunity afforded by the holidays and make the most of them.

As a Christmas gift for old or young the bicycle still possesses charm, particularly if it is in any way out of the usual. The circumstance makes for the display of motor bicycles, chainless bicycles, cushion frame bicycles and the like, while the clever merchant can turn even the new features of the standard models to advantage. The use of smaller tubing and lower gears and the re-

duction in weights furnish material on which effective holiday advertising and talk may be based.

In sundries, the lamps, coaster-brakes, decorated bells, spring seat posts, engraved cyclometers and other etcetera that comprise the stock of a cycle store are worthy of suggestion as Christmas gifts.

It is a season when the purchasing public is in a mood for suggestions of the sort, and the cycle dealer should not be behind other merchants in advancing them. If he does not see fit to advertise them in print, he can at least do something of the sort by giving his show window a "Christmas appearance."

Laxity in this regard has been confined almost wholly to the cycle trade. With merchants all around him reaching out for "holiday money," the cycle dealer appears imbued with the what's-the-use idea, and, generally speaking, does absolutely nothing, and is alone in his doubtful glory.

Why not rise to the occasion and make the most of it?

The Operation of Motor Bicycles.

It will take only a few short years for the motor bicycle to be perfected and refined out of nearly all semblance to its original self.

Already great progress has been made, and much of the crudeness so painfully apparent in the earliest models is disappearing or has disappeared. There is still much to be done, however, and it behooves designers to lose as little time in the doing thereof as they possibly can.

Few things are more important or more deserving of immediate attention than the arrangement of the levers and other attachments necessary for the operation of the motor.

These are five in number—the sparking connection, the sparking advance, the compression tap and the gas and air regulators. Each plays an important part, and must be easily accessible if good results are to be obtained.

It is fortunate that in the arrangement for making and breaking the sparking connection an ideal method was hit upon at the beginning. To manipulate it the hand need not be removed from the grip.

It is a pity that it was not possible to arrange the other parts so easily and conveniently. Great difficulties stood in the way, of course, for no one will dispute the contention that as the rider needs both hands for steering he should not be obliged to remove either of them for the purpose of operating or regulating the motor.

Of the levers referred to, the one controlling the compression tap is in a sense the most important.

The rider must start with this tap open, and before the machine is under good headway he must take his hand from the bar and close the compression. If the proper explosions do not come at once he must open the tap again, pedal a few revolutions, and once more close the tap. To a novice, particularly, this is very trying, and he frequently forgets to close the tap or to open it when he finds the motor is not working properly.

If the tap could be worked from the handle bar, without removing the hand from the grip, as by means of a lever worked by the thumb, a long step forward would be taken in the direction of simplicity and convenience.

Next in order comes the lever for the sparking advance. At the start it is not so much needed as, say, the gas and air levers; for it is set at the slow speed at the start, and only advanced when the motor gets to working properly and the rider desires to increase his speed. But where it tries the nerves of any but a veteran motocyclist is when he desires to slow suddenly and has to remove his hand from the bar and search for the sparking lever. He can, of course, cut off the sparking entirely by breaking the connection at the grip, but it is frequently better to retard the sparking and thus slow instead of stopping the machine.

The gas and air levers, or lever—for sometimes they are combined—are not nearly so important to the novice.

The nice discrimination which enables a rider to key these up to concert pitch, and to keep them there, comes only with much practice. They are not likely to need attention in an emergency, and can be manipulated at ease.

But the compression and the sparking levers should be so placed that they can be operated without taking the hands from the grips.

The designer who accomplishes this object will confer a boon on the army of motorcycle riders that the coming and succeeding seasons will bring forth.

The L. A. W. and Its Future.

Evidence that our references to the sorrowful condition of the League of American Wheelmen have not been wholly vain is presented in another column.

Each of the communications is of interest and points to a moral.

Mr. Hassan really puts his finger on one of the most vital spots in the League structure. It indicates that the right men are not in the right places. That men like Hassan, who are ready and anxious to do something, should be placed on committees, the heads of which are mere title-holding drones, is one of the heavy weights that have dragged and are dragging down the organization.

President Earle's high-keyed peroration doubtless contributed to his own self-satisfaction, and may wring tears from the man who is moved by sentimental similes, but to those who are not blinded by a cloud of fine-strung words Earle's effort will but strengthen suspicion that he is not the man for the office he fills. Viewed without feeling, it is a pitiful confession for the president of the League to make. It proves him unworthy of his position. The frost to which he refers has evidently chilled his energies and shortened his range of vision. Sentiment is a fine thing in its place, but the man imbued with the idea that the L. A. W. can never again be more than a sentimental organization is an obstacle to its regeneration and upbuilding; he should be let down and out of official life as quickly and as gracefully as possible. The League has served Earle's purpose, or one of his purposes—it has advertised him and got him into practical politics and made him a Congressional possibility—and there is need now for a man who has no such bees buzzing in his bonnet.

The League has not outlived its usefulness. If it has remaining officers who can see beyond their noses they must see that the motor bicycle is making for a considerable revival of cycling interest that will bring with it a return of many of the questions of offence and defence that ruled in earlier years. The Massachusetts Division is at this moment engaged in a legal squabble of the sort, of which there will be more rather than less. Within the last month an individual accomplished what the League should have accomplished: he induced a railway association to rescind its rule against the acceptance of motor bicycles as baggage.

The truth is that Mr. Earle and his colleagues have not sought to do anything, and of course nothing has been done. "Good roads" and "good fellowship" is the burden of their song, which has required but a movement of the lips to sing. At the risk of shocking the gentlemen who have Earle-frost on their heads, we venture to say that the L. A. W. has suffered an overdose of good roads. It is a good war cry and a proper plank in the League platform, and a

worthy field of endeavor; but, for all of that, the average man on a bicycle or off of it is not paying \$1 per year merely to help the cause of highway reform. He should do so, of course; but the fact remains that he does not, and will not, and it is high time the fact was recognized and admitted. Your average wheelman must be attracted and tempted with more material or more personal bait.

We understand that at the meeting of the National Assembly a proposition will be offered eliminating State divisions and providing only for national officers, who shall be elected by the general membership. We are not informed as to whether such is a part of the idea, but if the national committees are not also abolished we think the plan should be adopted. The State divisions are but nominally alive, and with alert national officers and national committeemen, under whatever name, the interests of all sections will be represented and served far better than is at present the case, while election by popular vote unquestionably makes for greater general interest.

We are told also that the plan embodies the construction of "a good hotel system"—that agents working on commission will scour the country, effecting the necessary arrangements and adding to the League membership. The man who fathers the motion may have more data at hand than we have, but we certainly have small faith that hotelkeepers will invest very heavily in "gold bricks" of the sort at this late day. The term "League hotel" like "good roads," looks well in print, but few cycling birds are so gullible as to be caught by such chaff. "Good fellowship" and "fraternal feeling" are other terms that have but a semblance of meaning as applied to the L. A. W. Practically the only men who fraternize and have the "good times" of which President Earle speaks are the men who spend their divisions' money in attending that annual prattle, the National Assembly, each year.

What is to be done?

In the first place, the officers of the L. A. W. should stop playing politics and trying to hide their do-nothingness in the dust, "good roads." They should look at things as they are, and cease deceiving themselves and trying to deceive every one else. If there is too much "frost" on the heads of the responsible men the sunshine of youth might be let in; it may serve to melt the frost and warm the blood of the organization.

Let a man of ideas be made president—one who is not a politician, and who will

himself work and appoint men who will work, or who will remove them if they fail to do so. No frosted politicians, sentiment-saturated mossbacks or "grafting" hangers-on should be permitted to apply.

Let the League be made attractive. Let it do something more than, parrotlike, screech "Good roads!" whenever it is touched. Let there be a reorganization—a modernized return to first principles, in which "grafters" were unknown, and enterprise and good fellowship were cardinal elements.

Let the League declare that it is of and for motorcycles and for the defence of them as for all other cycles—there is doubt on the point—and let the declaration be shouted from the housetops and the most be made of it.

Let "touring" displace "good roads" as the catch cry, and let the word mean something. There is room, plenty of room, for a League tour, or two, three or four League tours each year; the country is wide and full of beauties. The tours will carry fraternalism, road books, good roads and League hotels with them.

Let the League promote some affairs of national interest—a road race (hear the mossbacks howl!), a hill climb, a coasting contest or anything else of the sort that is of human interest. If need be, let the events be made a part of the annual meet or tour.

Let the League turn a prod or searchlight on its official organ, its press committee and its other committees. Let the League tear a few pages from the book of the French Cycle Touring Club, which steadily maintains a membership of some 75,000 and a surplus of nearly \$40,000, yielding an annual income of \$1,200, sufficient to pay a secretary's salary. Let the League learn how these results are attained, and at least seek to equal if it cannot excel them.

The avenues of enterprise are not closed to the L. A. W. It has not found them, simply because its leaders have not faithfully and energetically tried to find them; and they will not be found if the same old stripe of man is again chosen to lead—the man who bangs a small drum and yells "Good roads!" until he is blue in the face.

The League lacks human interest; that is the source of its discomfiture. A man of energy and ideas, with wisdom enough to select fellows of his kind, can work a transformation and save the League from the oblivion which now threatens it. It is to be hoped that the opportunity will make the man.

ORIENT BICYCLES

Motor
Cycles
and
Auto=
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MODELS FOR 1902
ARE NOW READY.

WRITE FOR AGENCY.

The Orient line for this season is a winner.
Eight elegant models ranging from \$30 to \$50.

Hand=
some
New
Catalog
is now
in Press

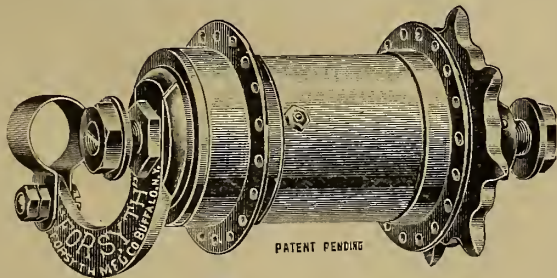
WALTHAM MANUFACTURING COMPANY

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For all who Seek
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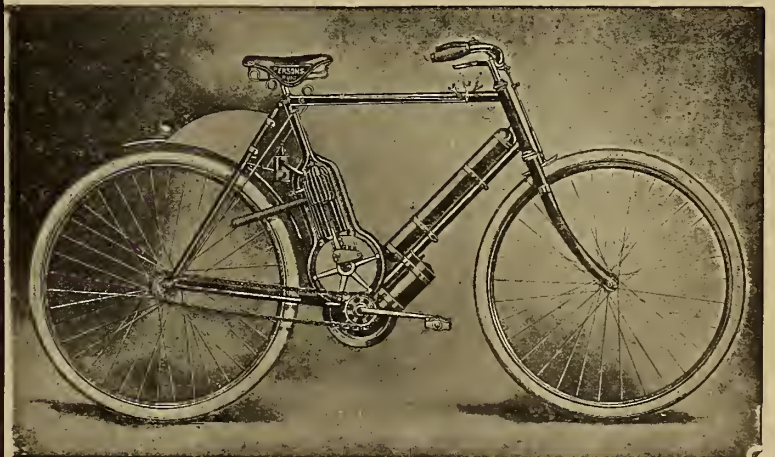
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PLEASURE, PROFIT AND SATISFACTION
THAN THE
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It is an exclusive present, however.
Only one man in each town can possess it.

ROYAL MOTOR WORKS,

Chicopee Falls, Mass.

Bad Plight of the Premier.

In marked contrast to the showing of other British cycle concerns is that made by the Premier Cycle Co., as revealed in its annual report. A loss of some \$20,000 is acknowledged, which is made worse by comparison with 1900—admittedly a much worse year generally—when a slight profit was earned.

It is not surprising, therefore, that this hugely capitalized concern faces a reorganization. The trading loss is trifling and its resources are enormous, there being more than \$250,000 cash in hand. But with a capital of \$3,000,000 and a steadily falling business, it is very evident that it is time to do something. Therefore, the present directors have drawn up a plan of reorganization, and in presenting it offer to resign en bloc, first electing such successors as the stockholders may wish to put in their places. Under the plan the stock is reduced to \$875,000, the preference and ordinary shareholders having their shares cut down in value to 10 and 4 shillings, respectively. In addition, the vendors—the old Premier Cycle Co.—agree to cancel 50,000 preference and 50,000 ordinary shares now held by them. The measure is a drastic one, but it is a case that calls for heroic measures. The inauguration of a new, wideawake policy is a part of the scheme.

The Premier Co. is one of the oldest cycle making concerns in the world, and at one time it was quite a factor in this country's trade. It has been afflicted with dry rot for some time.

He is of Good Cheer.

There is an optimistic dealer in Springfield, Ill., one who has no liking for the role of Jeremiah and declines utterly to play it.

"We have ordered a number of wheels from the travelling men, to be shipped as soon as spring opens up, and I expect that the trade for the season of 1902 will be as good as, if not better, than last season, and we had nothing to complain of," he is quoted by a local paper as saying.

"A great many people have supposed for the past two or three years that the bicycle business has run its course, but such is not the case. We sold a large number of wheels last season, and the prospects are good for a successful season this year. The word 'season' is getting to mean the whole twelve months, as those who now ride wheels do so far the whole year or a greater part of it. The bicycle is a thing that has come to stay on account of its many good qualities, and there will be a steady sale for years to come."

Sale of Spiers Machinery.

With the sale of the machinery once used in the old Spiers Mfg. Co. factory at Worcester, Mass., which took place last week, the last trace of that concern passes away. The machinery was disposed of at private sale, and brought good prices. It had been used by an automobile concern, and when the latter removed it was decided to clear it out.

On the Field of Mars.

In its utilitarian aspect the bicycle is bound to continue to come to the front as the years go by. Its fields of usefulness are being extended, and each new use to which it is put makes plain its fitness for the purpose.

In future military operations in particular its influence will be considerable. Speaking on this subject, a distinguished foreigner is quoted as saying:

"The military cyclist is bound to become a most important factor in military tactics and manœuvres of the future, for the following reasons:

"First—His speed possibilities are greater. In nine cases out of ten, over any class of country, a cyclist will always outpace a horse.

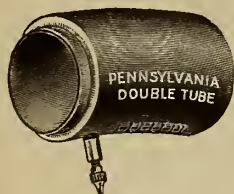
"Second—He offers a much smaller target for the pursuing shots, and practically the only way to disable the cyclist is to bring him down himself.

"Third—He can hide much more easily than a cavalryman.

"Fourth—The cyclist has a natural knowledge of roads, and can pick up the 'lay' of a country by trained instinct.

"We love the horse, but we know the bicycle would be superior for the purposes he serves in war. He is punctured as frequently as any pneumatic tire. He needs oats. He is slow and bothersome. He is subject to all sorts of illnesses. And some day he will give way to the bicycle."

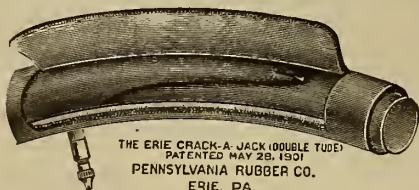
Jobbers, Be Wise!



Handle these
Goods and
MAKE MONEY.

STAY WITH THE GOLD MEDAL WINNERS.

Write for
our
1902
Price
List.



Don't close
until you
consider
our entire
line.

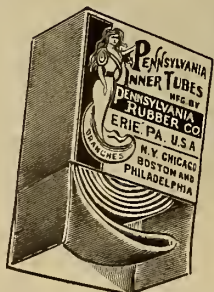
**PENNSYLVANIA
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THE MOST DESIRABLE AGENCIES FOR 1902

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We are closing contracts rapidly. How
about your section? Better write us
for catalogue and proposition.
Immediate delivery.

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THE L. A. W.; ITS FAILINGS AND AILINGS

**The Bicycling World Brings out Some Interesting Opinions and Suggestions—President Earle's Pitiful Confession That There is Nothing More for the League to do—
Real Workers do not Share his Views.**

Editor The Bicycling World:

One might as well mourn because the army that fought the battles from 1861 to 1865, by whose courage and efforts this glorious country was sustained and relieved of its troubles, no longer exists in all its military grandeur, as to mourn for the oldtime L. A. W. army that existed in all its grandeur, and with all of its courage and enthusiasm, until likewise it relieved this country of the troubles that did exist, and which was the cause that made necessary such an organization.

Each has fought its battles, each has won, each has made this country better, each worked for freedom; one freed the laborer, no matter what color; the other freed the traveller, no matter what carriage.

One no longer hunts for an army to fight, but has laid aside its guns, its knapsacks, its every army accoutrement, and meets around its fraternal camp fires, enjoying a brotherly association which will better fit them to meet around the Great Camp Fire at which white or black, blue or gray, the animosities, the sectional lines and class hatreds will not be.

The L. A. W. likewise to-day is a fraternal organization or nothing; no longer any unjust decisions, no longer any hateful ordinances, no longer anything to make necessary to keep in fighting trim. Then, like as the G. A. R. meet around their camp fires, so, too, the L. A. W. members should meet around their festive boards and enjoy the association of meeting "oldtime wheelmen."

In the next Assembly steps should be taken to make it a more fraternal and national and less a fighting and sectional organization.

It will be noticed in that Assembly that the frost is on the hair that's left upon the head of many a member. Especially is this true with the venerable secretary, with his whiskers, with his glasses, with his squint, but, best of all, with his good old-time fraternal spirit.

Good times, good roads, good deeds, must occupy the attention of the organization.

Steps should be taken to eliminate all State divisions, and by so doing provide for a first class magazine and the support of a national headquarters in touch with every member of the League.

H. S. EARLE,

President League of American Wheelmen.

Editor The Bicycling World:

It is probably unnecessary to tell you that I was deeply interested in the article "The Trade and the L. A. W.," and that it aroused me for the first time in some years to the

true condition which it seems we are confronting in cycling, and in the L. A. W. especially. It is hardly possible to believe that an organization which a very few years ago had something like 120,000 members has now dwindled to 12,000.

We can all realize, of course, that the good old days of race meets, division meets and national meets are over, but we all have the same interests regarding the welfare of the wheel and good roads that we then had, and these interests could be as well conserved at the present time as they were during the old days.

I believe there certainly is something "rotten in Denmark," and that a rejuvenation of the L. A. W. could be accomplished successfully if only the proper means were employed and the right kind of men would take hold. We have just as strong and influential men in the trade at the present time as we ever had, and by enlisting their enthusiasm, as well as that of the strongest pillars which still remain standing in the lay ranks, it seems as if a successful effort might be put forth to resurrect the old ghost.

I shall always be a member of the L. A. W. as long as it exists, and hope that it will always be found alive and dictating to the good of the cause.

J. A. M'GUIRE, Denver, Colo.

Editor The Bicycling World.

I have perused the article "The Trade and the L. A. W." in the issue of December 5, and am heartily in accord with your views in the matter of the upbuilding of the L. A. W.

I agree with you that some divisions are governed and controlled by a so-called lot of "grafters," but such things will occur in the best regulated families; however, there should be some remedy for such an evil.

The objects and aims of the League could not be improved upon, but I am of the opinion that the beginning of the decline was caused by the official organ taking a hand in politics; the next bad step was their going into the mercantile business in furnishing periodicals, etc., at reduced rates; next was, as you state, the inactivity and non-support of the trade in all matters looking to the upbuilding and advancement of the League.

Numerous other "causes" may be advanced, but that does not remedy the trouble; we must now look forward to some plan whereby a revival may be brought about.

I am one of the National Local Organization Committee, but have failed to hear from our chairman since our first appointment, al-

though I have been ready and willing to meet and act with said committee at any time.

When the life membership was adopted I was one of the first to "take hold," my number being 9; I have served in several capacities in the State, and have been Chief Consul for the past three years; and, while the office did pay a nominal salary, I had same discontinued and served without pay, besides being under extra expense for postage, etc. I have written numbers of letters, but have been unable to stir up any enthusiasm.

In my opinion, a reorganization of some kind should take place. The objects of the League are, and should be, principally on the lines of good roads, highway improvements, touring, both local and international, and a general fraternalism among the membership, whereby general assistance and information pertaining to wheeling and wheelmen should be at all times available.

I am ready and willing at any and all times to give my time and labor to bring about some reorganization or assist in any way to revive the League, and will be at your service to assist should you desire to take the initiative in the work.

WALTER B. HASSAN,

Chief Consul, Indiana Division, L. A. W.

Editor The Bicycling World:

I read with much interest your article in the Bicycling World of December 5 on "The Trade and the L. A. W." I thoroughly agree with you that a livelier trade and interest would result were the men of the cycle trade to help in the work of the League. There is no doubt that the manufacturers and dealers made a serious mistake in casting loose from the cycling organizations and ceasing to take part in the promotion of race meets, etc.

Here in St. Louis there are several dealers who have fine stores, etc., but will not even renew their L. A. W. memberships, although they are but \$1 per year. One does not feel very much like pushing a thing when these people, who are financially interested in the results which bear out, do not care to assist in the least.

I do not believe the cycle trade will ever make much out of the class of riders who ride only to save car fare, or because the bicycle is a convenient vehicle to get around with. These people buy only old, second-hand or other cheap machines, and in most cases do not even know the make of machine they ride. It is the enthusiast who will spend money on new models and new devices. In the palmy days of the bicycle

most riders used to purchase a new machine every year, and they could tell at a glance, too, what year's model their brother wheelmen were riding, to say nothing of being able to tell the make of machine. Indeed, we used to wonder where all the old machines went. Wheels cost \$150, too, in those days.

Only a few days ago I met a man who told me he never enjoyed anything better in his life than cycling when it was at its height; now he does not ride at all. He says he quit because every one else quit. I have met many others in the same fix. I believe the game can easily be started again if the manufacturers and dealers will only do something to revive interest.

The officers of the L. A. W. are in nearly every case old standbys who are doing all in their power to hold the grand old organization together. There is no excuse for allowing the L. A. W. to shrivel up. We should have a national organization of wheelmen by all means. There is as much need of this now as in the past. What the L. A. W. accomplishes is not only a benefit to every class of wheelmen, but it is a far greater benefit to every maker of or dealer in bicycles and sundries.

Every dealer should be an enthusiastic L. A. W. worker and endeavor to secure applications. For they are the ones who come in contact with wheelmen more than anybody else. Indeed, one of the chief reasons for the L. A. W. membership dropping is the indifferent state of the dealers.

Every manufacturer of bicycles and sundries should have in his catalogue an application blank and a few good words for the L. A. W. The time to make an enthusiast is when a rider buys a new machine.

I am greatly surprised at what you say of salary grabbing in some of the divisions, and cannot believe that this is correct. Here in Missouri no salaries are paid, and many of the expenses of the division are paid by the officers and other enthusiastic members personally. More than this, none of the officers of this division are connected with the cycle trade in any way. Missouri is not one of the largest divisions, but it is by no means one of the smallest.

When the question, "What do I get for my dollar?" is put to us we feel pretty much like Conway W. Sams, ex-president of the League, who once wrote the following in the L. A. W. Bulletin: "When a man asks me what he gets for his dollar when he joins the L. A. W. a feeling of utter disgust comes over me. As long as the old organization lives—which will be for many a long day to come—it will always have my dollar. Too much has been accomplished for any one to ever think of abandoning an organization which has been successfully run by devoted men, unsupported at times and without a cent of compensation. I feel sure that all these facts are not brought to the attention of wheelmen as they should be, because if they were I cannot see how a man with the proper amount of good, healthy blood in his body could decline to become a member.

We cannot always guarantee to feed and clothe a member for \$1, but the idea should be that it is an honor to belong to the L. A. W., and not always what can I get out of it!"

I am glad to know that the *Bicycling World* opens its columns to the L. A. W., and anything that turns up in Missouri which I think will be of interest to the *Bicycling World* I will gladly forward.

GEO. LANG, JR.,

Secretary-Treasurer Mo. Div., L. A. W.

Editor *The Bicycling World*:

You hit it pretty near right in your issue of December 5 when you stated in substance that it was the do-nothing policy that is dragging down the L. A. W. But it is not exactly reasonable to expect that any one in the trade will display interest or turn a hand when the very men elected and holding titles which are supposed to stand for something are doing absolutely nothing but spending the money that their divisions draw.

There are thousands who might be induced to renew their membership were they but asked, but from all I can gather there is neither money nor effort being expended in that direction; the divisions do not do it, and the national officers have not sufficient income. New York, I am told, is the only live division remaining; all of the others are dead, or, at any rate, they are without working officers, most of them being in debt because of roadbooks issued at less than first cost; even New York is up to its neck in debt, but at that the future of the League is really in its hands.

Nothing was done at Philadelphia last year, and if the National Assembly in February is again turned into a political pot boiling over with ambitious politicians there will be no League left within six months; only a name will remain. If New York faces the issue squarely and does not "play politics" as in the past, there is hope; the fate of the L. A. W. is in its hands, and if it does not see what the *Bicycling World* has been keen enough to discern—that radical reorganization is necessary, that divisions must go or sing small, and that it is a national organization or nothing—nothing will be the result.

I have gone out of my way to glean information, and these opinions are the result. The L. A. W. is even more perilously near utter and abject collapse than is apparent on its surface.

ONE OF THE OLD GUARD.

Close to Perpetual Motion.

Lifting one's self by the bootstraps is not in it with a device shown at one of the British shows. This was a bicycle in which the crank axle of an ordinary cycle is provided with a bevel toothed wheel, which engages with a bevel wheel on the end of a rotating shaft carried in bearings along the bottom tube of the cycle to the head. At this point another pair of bevel gears connect it to the rotating shaft of a brass vaned

fan carried in the front of the machine and attached to the head. Another pair of spur gears is also introduced to transmit the motion from the central plane of the machine to the side of the bevel wheel. Thus there are six pairs of engaging toothed gears and six shaft bearings.

It is claimed by the enthusiastic inventor that the wind resistance set up by the forward motion of the machine is utilized in the fan to assist in the propulsion of the cycle. In order to demonstrate to the admiring crowd at the stand that the wind motor would assist in the propulsion, the inventor had fixed up an electric fan, placed immediately in front of the fan, and which drove a current of air on to it; this caused it to revolve, and the rear wheel was rotated.

The back wheel of the bicycle, so long as the electric motor continued running, kept on at an easy pace of about a mile an hour.

To Fasten the Valve Cap.

In this country riders have always been able to keep track of valve caps without having them fastened to the bicycle; or, at least, if they lost them they laid it to carelessness on their part, and never thought of demanding a safeguard. But across the water it is different. The valve cap must be secured to the machine, and all these years this idea has never been lost sight of, notwithstanding the chain attached to a spoke was considerable of a nuisance.

An improvement on this plan has been brought out by a British maker. It consists of a spoke wire, looped to lie under the locking nut, running parallel with the valve and alongside. On it is mounted the valve cap by the little hole whence the chain has been removed. Then comes the spoke head.

Cycles as Educators.

Even yet the advantages of the bicycle are not fully recognized. A British physician, in a lecture delivered recently, calls attention to one oversight.

"Its educational advantages were enormous," he says. "The men and women who indulged in bicycle exercise developed their powers of concentration more rapidly than by any other means. The bicyclist was always meeting with obstacles, and he must invent means to overcome difficulties. It was the best of all exercises for children, and they should learn to ride as soon as they are sufficiently developed physically. Bicycle exercise dealt with the body and mind at the same time. It also gave older people the power of self-control."

What the Winners Rode.

The winning team in the six-day race rode, respectively, a Stearns and a Tribune bicycle; Walthour rode the former and McEachern the latter.

"Defects (in motorcycles) and How to Remedy Them." See "*Motocycles and How to Manage Them.*" \$1. The Goodman Co., Box 649, New York. ***

WHY SHE QUIT

Typical Causes That Contributed to Cycling's Decline—Camera Played a Part.

"And why did you stop riding? Was it because you became tired of it?"

She had let slip the fact that once she had been a persistent cyclist, but had not been on a wheel for several years. Hence the two questions quoted.

"It is not easy to give a connected answer," she replied. "There were so many causes at work, and to the door of no particular one of them is the blame to be laid. I suppose," reflectively, "that a reluctance to get up at 5 o'clock in the morning to ride, and to keep it up until 10 o'clock at night, after I had been doing this for a number of years, had as much to do with it as anything. It was too much of a strain to be kept up indefinitely.

"I suppose, too, that I was too enthusiastic, too devoted to the cycle, and that a reaction finally set in. That is the only way I can explain it.

"The cycle was recommended to me by my physician. I was in need of outdoor exercise, and the doctor thought the cycle would be just the thing to give it to me. So papa bought me a wheel—and got one for himself, too—and I began to ride. At first it was duty riding, then it became pure pleasure. I soon became an enthusiast, and rode on every possible occasion.

"After I had ridden everywhere around home I began to sigh for fresh fields. So papa and I took up touring. We rode through the Berkshires, over Long Island, up the Hudson, and in fact every other place in this section of the country. We were just carried away with it. All summer long, whenever papa could get a vacation or get away from business even for a few days, we rode and rode, and never got tired."

"Well, and what cast you out of this cycling Eden? Why did you give up riding?"

"The beginning of it was the purchase of a camera, I think. Cycling and photography went hand in hand, everybody said, and I thought I would like to combine the two. So I invested in a camera, and that was the beginning of the end.

"From riding the wheel simply for the pleasure it gave me I began to use it partly as a means to an end. It carried my camera and took me to places where I could find good views and picturesque scenery. A better knowledge of photography led to the purchase of a better camera, and it and the tripod and the plates and other impedimenta loaded the bicycle down until it became quite a task to push it with its load.

"As soon as that fact was borne in upon me I began to shorten my rides. And, the downward descent once started upon, there was no holding back. Photography took less time and less exertion than cycling, and it

was the newer enthusiasm. Consequently it won the day.

"But I often think I shall ride again, and even resolve to do so. There never was anything that gave me so much pleasure or enabled me to see so much. If only I had some friends who rode I would go back to it."

October Instead of January.

So much opposition developed to the proposed change of date of the British National Show to January, 1903, that the plan has been dropped. It is still the intention, however, to select a date which will not conflict with that of the Stanley Show. With that object in view October has been suggested, and it remains to be seen whether this will be satisfactory to the trade. It is understood that the January date was mooted because it was favored by the motor vehicle contingent, but it raised such a storm of objection from the strictly cycle making trade that it was speedily abandoned.

Simplicity in Spring Forks.

Of the many original anti-vibration devices that developed at the English cycle shows,



the spring fork shown by the accompanying illustration merits remark, on the score of simplicity if on no other. As will be seen, it consists merely of fork sides with a tapering slit or slot extending the greater part of their length.

Singers Have a Doleful Song.

Another of Great Britain's overboomed and overcapitalized cycle concerns has been brought face to face with reorganization. This is the Singer Cycle Co., which has just presented its report for the year ending September 30 last. It shows a small profit—about \$57,000—which, however, is insufficient to permit the payment of any dividends. Indeed, it falls a little short of providing for such items as depreciation, directors' fees and interest on the debenture bonds, some \$7,500 having to be taken from the amount carried forward last year to meet these items.

As the concern's capital is well in the millions, it is evident that something must be done, and this something takes the usual form of a proposal for reconstruction, and the directors, who include an earl and a lord, say they are willing to consider a scheme of this kind.

FACTS IN FIGURES

Statistics That Show Strength and Tendencies of the English Trade.

While there is little or no prospect of a cycle show in this country, that function still holds its place abroad. As is generally known, the British trade has supported two rival shows for a number of years—the Stanley and the National, both of which occurred last month, and which were from all accounts more interesting and better attended than any of their immediate predecessors.

In point of exhibitors both shows recorded increases, the Stanley's gain being a substantial one. While automobiles were eligible, they were really out of place and cut but a minor figure.

The summaries of both shows are not without interest. The figures attest that it is the coaster-brake (free wheel) and the motor bicycle that have made the big strides during the twelvemonth. As compiled by the Cyclist, the tables are as follows:

SYNOPSIS OF THE NATIONAL SHOWS, 1897-1901.

	1897	1898	1899	1900	1901
Exhibitors	393	284	202	112	114
Cycle exhibitors....	232	174	105	70	44
All types of cycles..	2272	1951	1276	812	738
Ladies' cycles.....	879	741	463	276	181
Chainless cycles....	34	23	11	10	12
Tandems	65	75	33	18	8
Tricycles	54	73	43	29	15
Motor bicycles.....	1	.....	.....	10	57
Motor tricycles.....	.....	8	30	19	9
Free wheels.....	25	25	498	335	450
Spring frames.....	.....	.....	.....	24	26
Cross frames.....	.....	.....	.....	30	65
Children's (all)....	.....	.....	.....	25	25
Trailers .....	.....	.....	.....	.....	25
Two speed gears....	.....	.....	.....	3	4
Motor cars, not cycles	.....	.....	35	96	74
Firms showing same	.....	.....	13	26	19

SYNOPSIS OF THE STANLEY SHOWS, 1897-1901.

	1897	1898	1899	1900	1901
Exhibitors	330	285	281	232	271
Cycle exhibitors....	166	174	156	103	136
All types of cycles..	2026	1951	1461	967	1128
Ladies' cycles.....	763	672	514	279	284
Chainless cycles....	37	69	20	11	3
Tandems	106	87	55	32	21
Tricycles	37	49	36	18	10
Motor bicycles.....	8	6	1	1	110
Motor tricycles.....	8	16	67	19	4
Free wheels.....	18	85	482	334	661
Spring frames.....	.....	.....	.....	40	34
Cross frames.....	.....	.....	.....	13	55
Children's (all)....	.....	.....	.....	19	54
Two speed gears....	.....	.....	.....	7	16
Motor cars, not cycles	.....	.....	35	35	22
Firms showing same	.....	.....	13	16	7
Trailers .....	.....	.....	.....	.....	26

Of the 167 motor bicycles exhibited at the London cycle shows, 84 were belt drivers and 67 were fitted with surface carburetters, which are practically extinct in this country.

The Retail Record.

Gobleville, Mich.—J. W. Tuxbury, fire loss.

Everett, Mass.—J. J. Cannell & Co., loss by fire, \$700; fully insured.

RACING

After following each other for 2,555 miles as doggedly even as shadows follow, the five leaders in the six-day race in Madison Square Garden broke into a wild sprint at 10:11 p. m. Saturday night, and while a crowd of 12,000 people roared in frenzied acclaim, Robert Walthour, of Atlanta, Ga., for four laps stalled off every effort of the other four, and won by an open length. Lester Wilson, of Pittsburg, followed him across the tape, with Ben Munroe, of Memphis, Tenn., at his heels. If Munroe had not been so absorbed in watching Walthour he might not have been "jumped" by Wilson. Oscar Babcock and Nat Butler finished fourth and fifth, respectively.

While the band played "Dixie" and the crowd was still roaring, first his wife and then his team mate, McEachern, smacked Walthour's drawn and perspiring face. This and a group picture on the track of the kissed and the kissers, snapped for a sensational sheet, marked the close of the event which had unexpectedly and inexplicably stirred New York to a mighty pitch. Although the admission fee was raised from 50 cents to \$1 on Friday, it had no effect on the attendance. Each evening the big house was literally packed. Thousands, unable to obtain seats, stood for hours each night. It is a conservative estimate that fully 100,000 spectators viewed the race during the six days that it lasted.

Of the seven prizes, the first six were won by American teams; the seventh fell to Hall and McLaren, the Britishers. Of the other "importations," the Gougoltz-Simar team was thrown out on Monday by the rank quitting of Simar. Lapoutre-Muller (Italy) and Karnstadt-Franks (Austria) were "dead beat" on Tuesday. Kerf-De Roeck (Belgium) joined them the next day, and in a general mix up on Thursday Fisher, of the Swiss team, fell and broke his collarbone, forcing out his partner, Chevallier, while they were still on even terms with the leaders. Only the Germans, Frederick and Jaak, held out, and they were hopelessly beaten.

During the week the excitement was supplied by the numerous wild sprints to steal a lap, but in no case did they succeed. Once Walthour-McEachern gained the coveted lap under cover of an accident to the others, and again Butler-McLean did the trick, but both men were on the track at the same time, and in each instance, under the rules, the gains were disallowed. McLaren, of the English team, went to pieces on Friday and could not hold the pace; Hall tried to make good the deficiency and, overworking himself, became groggy and fell several times. McEachern also "went wrong" on Friday, and gave his mate, Walthour, an anxious twenty-four hours. McEachern spilled himself several times, and only by holding himself in constant readiness and in dashing on to the track in the nick of time did Walthour save

his team from losing a lap on several occasions.

The records were never in danger. After drawing up to within ten miles of them on Wednesday, the riders fell away steadily and left untouched the figures for 142 hours—2,733 1-5 miles, made in 1899 by Miller and Waller.

The scores at the end of each twelve-hour period follow:

The score at 12 o'clock Wednesday (the sixtieth hour) was:

	Miles.	Laps.
McEachern and Walthour.....	1172	8
Maya and Wilson.....	1172	8
Newkirk and Munro.....	1172	8
Butler and McLean.....	1172	8
Fisher and Chavellier.....	1172	8
Lawson and Julius.....	1172	7
King and Samuelson.....	1172	7
Babcock and Turville.....	1172	7
Hall and McLaren.....	1172	5
Fredericks and Jaak.....	1172	5

The score at midnight Wednesday (seventy-two hours) was:

	Miles.	Laps.
McEachern and Walthour.....	1390	8
Newkirk and Munro.....	1390	8
Maya and Wilson.....	1390	8
Butler and McLean.....	1390	8
Fisher and Chavellier.....	1390	7
Babcock and Turville.....	1390	7
King and Samuelson.....	1390	6
Lawson and Julius.....	1390	6
Fredericks and Jaak.....	1390	4
Hall and McLaren.....	1390	4

The score at eighty-four hours was:

	Miles.	Laps.
McEachern and Walthour.....	1598	3
Maya and Wilson.....	1598	3
Newkirk and Munro.....	1598	3
Butler and McLean.....	1598	3
Fisher and Chavellier.....	1598	3
Babcock and Turville.....	1598	2
King and Samuelson.....	1598	1
Hall and McLaren.....	1598	0
Lawson and Julius.....	1598	0
Fredericks and Jaak.....	1597	9

At ninety-six hours the score stood as follows:

	Miles.	Laps.
McEachern and Walthour.....	1796	4
Butler and McLean.....	1796	4
Maya and Wilson.....	1796	4
Newkirk and Munro.....	1796	4
Babcock and Turville.....	1796	4
King and Samuelson.....	1796	2
Hall and McLaren.....	1795	6
Fredericks and Jaak.....	1795	6
Lawson and Julius.....	1795	5

The score of the fifth day at 12 o'clock, the 108th hour, was:

	Miles.	Laps.
McEachern and Walthour.....	1,992	6
Newkirk and Munro.....	1,992	6
Maya and Wilson.....	1,992	6
Butler and McLean.....	1,992	6
Babcock and Turville.....	1,992	6
King and Samuelson.....	1,992	4
Hall and McLaren.....	1,992	0
Fredericks and Jaak.....	1,991	9
Lawson and Julius.....	1,991	5

At 120 hours the standing was:

	Miles.	Laps.
McEachern and Walthour.....	2191	2
Butler and McLean.....	2191	2
Newkirk and Munro.....	2191	2
Maya and Wilson.....	2191	2
Babcock and Turville.....	2191	2
King and Samuelson.....	2190	9
Hall and McLaren.....	2190	5
Fredericks and Jaak.....	2190	2

Score for 132 hours:

	Miles.	Laps.
McEachern and Walthour.....	2,383	0
Maya and Wilson.....	2,383	0
Newkirk and Munro.....	2,383	0
Babcock and Turville.....	2,383	0
Butler and McLean.....	2,383	0
King and Samuelson.....	2,382	7
Hall and McLaren.....	2,382	3
Fredericks and Jaak.....	2,379	1
Lawson and Julius.....	2,221	0

The final score (142 hours) was as follows:

Position	at finish.	Miles.	Laps.
1	McEachern and Walthour.	2555	4
2	Maya and Wilson.....	2555	4
3	Newkirk and Munro.....	2555	4
4	Babcock and Turville....	2555	4
5	Butler and McLean.....	2555	4
6	King and Samuelson.....	2555	1
7	Hall and McLaren.....	2442	9
8	Fredericks and Jaak.....	2409	0
9	Lawson and Julius.....	2231	2

The short distance sprints and paced exhibitions which occurred each night proved attractive, and relieved the monotony. Albert Champion, until disabled by a fall on Friday, rode a mile on a motor bicycle, and Michael gave nightly two mile exhibitions behind motor bicycle pace. Nothing unusual in the matter of time was, however, recorded. On Wednesday Gougoltz and Schreiber rode two mile heats, Schreiber easily winning both, the first in 2:25 and the second in 2:23 4-5. Freeman also defeated Kimble in straight heats. Times, 2:32 2-5, 2:45 4-5. Frank Kramer rode a mile behind Champion's pace for the record, but failed to get it; his time, 1:45 1-5. Thursday night in a pursuit race Leander beat Krebs in 11 1/4 laps in 2:30 3-5. In a one mile heat race, best two out of three, Freeman and Schreiber had a close argument, Freeman taking the first and third heats and Schreiber the second. Each time the victory was gained by less than a length. The times were 3:33 4-5, 3:10 2-5 and 3:29 4-5. In a five mile pursuit race Gougoltz easily caught Kimble after going 7 1/4 laps.

Friday night the short distance sprints kept the crowd at fever heat. A five mile pursuit race between Gougoltz and Leander resulted in a win for Gougoltz, who caught Leander on the eleventh lap in 2:19 4-5. King overtook Bargett on the twelfth lap of a five mile pursuit race in 2:45 3-5. In the one mile match race, best two in three heats, in which Freeman, Kimble and Fenn were the contestants, the result was as follows: First heat, Freeman first, Kimble second, Fenn third; second heat, Freeman first, Kimble second, Fenn third. Time, 2:53 3-5.

Two Kinds of Shoes.

Tires and boots were the two articles which had to be replaced most frequently by a transcontinental tourist, a Mrs. Sparks, of Middletown, N. Y., who has recently returned to that town. In company with Mr. and Mrs. William Davis, of Philadelphia, she rode on her bicycle across the continent covering 4,212 miles a wheel and 2,000 miles afoot, consuming 103 days in the trip. No less than 14 pairs of tires were used by her, together with 3 pairs of bicycle boots.

"WHAT'S THE USE?"**Being the Story of the Rise of two Merchants and the Fall of one.**

Once upon a time in a certain thriving city there lived a self-satisfied merchant who had employed a confidential clerk who was a very unusual young man in that he took great interest in his employer's business. Times were good, and the city grew apace, and the merchant prospered.

By and by an outsider, hearing of his success and believing he could do well in the same city, came and located on the same street. Being a new man and having a new store, the stranger thought best to advertise. He was careful and did not spend his advertising appropriation foolishly, and the results were good. As his business grew he continued to advertise, and he soon was "doing the business of the town" in his particular line. Then the old merchant's clerk went to him and said:

"Master, we must advertise."

But the merchant answered:

"By 'we,' young fellow, who do you mean? Go to the door and see if any of your friends are passing by. Business is dead. Advertise? What's the use?"

By and by the clerk became discontented, for many of his friends and acquaintances were patronizing the new store and never called at 41144 as in the past. So one day he went to his employer and said:

"Master, you must get some one else; I am going to quit."

His employer was surprised, and inquired:

"Why, John, what is the matter? I will raise your wages (but the business doesn't warrant it) if you will stay."

But the young man answered him, saying:

"What's the use?"

Then the young clerk, who had been a hard worker, and who, in addition to saving his money, had made many friends and attracted the attention of older men by his thoroughgoing business ways, went out and got his friends to back him and started up a third store. He advertised, and his friends, reading that he was in business for himself and quoting the right prices on standard goods, came around and shook hands and bought things. Soon he was enabled to pay off his indebtedness, and as he was not hampered by a boss, he branched out and out, and was soon doing a big wholesale and retail business. As time progressed and the city enlarged the wholesale end of his business grew to such an extent that he was compelled to dispose of his retail trade, and he became a jobber and a wholesaler exclusively.

One day the young man's former employer was visiting him in his private office, when a man came to the railing in the outer office and asked if John was in. The old merchant hurriedly rose and said:

"John, it's that plaguey advertising solicitor; let me lock the door."

But John propped the door open with his foot and inquired:

"What's the use?"

What's the use of advertising, anyway?

What's the use of letting the world know that you are alive and doing a live-and-let-live business?

What's the use of having a sign over your store front, or decorating your show window? It is all advertising, and attracts the attention of the passer-by.

What's the use of advertising in the papers? It attracts the attention of thousands who never come your way, but who might be induced to come around by a well worded advertisement.

What's the use of attracting attention, anyway? People ought to have sense enough to come around and buy without having to be told.

What's the use of having competent clerks



NEW YORK BRANCH: 214-216 WEST 47TH STREET

in your store? Any one who has sense enough to hand out what is asked for and take in the money ought to do just as well.

What's the use of being in business nowadays, anyway? Some one is always trying to steal your trade, and people seem to think that unless you make a big roar you are going out of business. We should have lived a hundred years ago, when conditions were different.

What's the use of being a back number when you have every opportunity to be a live, up-to-date and successful business man?

"What's the use of being a kicker, or living on Surly street and selling sour stock?"

That's what I'd like to know.—(The Optimist.)

Racyle Readableness.

"Interrupted Stunts" is the title of a breezy little brochure just issued by the Miami Cycle & Mfg. Co., Middletown, Ohio. It details an interrupted letter from Jack to Algie which makes out a strong case for the Racyle. Incidentally, it illustrates several comparisons between the Racyle and other bicycles in a fashion that is difficult to dodge; the pictures alone should go a long way in effecting sales; they tell the story as words cannot tell it.

ONE-MAN CONCERNS**Wherein they are Lacking—Why two Heads or More are Better Than one.**

"Many a king has lost his head who would have retained it upon his shoulders if there had been some one about him with the courage and the chance to speak the plain truth, and many a manufacturer has failed for precisely the same reason," says a contemporary.

"There are many owners of manufacturing establishments who cannot bear to think that any ideas but their own are good for anything in the conduct of their business, and who, by a process of natural selection, gather about themselves a set of men who have no ideas of their own, don't want to have any, believe that their own interests will be best served by sycophancy or 'ready acquiescence with the ideas of the old man,' and never speak to him otherwise than in flattery or humble adulation. If the 'old man's' ideas are all right, this does not work so very badly; but if they are wrong, in whole or in part, there is no check upon them, nor any tendency within the establishment itself to correct wrong things.

"How often do we see a shop proprietor who is an adept in the art of meeting and dealing with customers, but who does not get along well with his employees! This is usually not because his customers are a different sort of men, but because a customer, being usually quite independent, is free to express his opinion, and freely does so, when he thinks he is not properly treated, and sometimes takes his custom elsewhere.

"In other words, a man who has no natural tact or perhaps little disposition to consider the rights or feelings of others is soon taught by his customers to regard these things so far as they are concerned, but his employees usually have no such opportunities, and yet by bad relations with his employees a manufacturer may lose as much as by bad relations with his customers. There is usually a decided advantage in one's having an associate who dares to speak his mind freely and who has a right to do so. When such an associate is not provided for by the organization of the business its head must depend upon the chance man who can do it, or must suffer for the lack of such a man.

"Corporations usually have an advantage in this respect. Their organization gives to more than one man the right and the duty to hold views and express opinions regarding the conduct of the business, especially when no one man owns sufficient of the stock to enable him to dominate all other stockholders."

End of a Varied Career.

Circulars inviting bids for the property of the Mannesmann Tube Works, Adams, Mass., have been sent out by N. S. Smith, its receiver. A meeting of the creditors has been called for December 23 at New York.

SINGLE TUBE TIRES.

The tire purchasing public is hereby notified that the United States Circuit Court of Appeals which is the Court of Last Resort has decided that the

Tillinghast Tire Patent is Valid.

OUR ACTIVE LICENSEES ARE:

Hartford Rubber Works Co.
Diamond Rubber Co.
Goodyear Tire & Rubber Co.
International Automobile & Vehicle
Tire Co.
Boston Woven Hose & Rubber Co.

B. F. Goodrich Co.
India Rubber Co.
Pennsylvania Rubber Co.
Fisk Rubber Co.
International Rubber & Insulated
Wire Co.

Single Tube Tires for bicycles, automobiles and other vehicles made by other than licensees are

INFRINGEMENTS

and the trade is warned NOT TO DEAL IN OR USE THEM.

This Company Will Fully Enforce Its Rights.

SINGLE TUBE AUTOMOBILE ^A_N^D BICYCLE TIRE CO.

(Continued from page 249.)

was to overcome what the patentee regarded as defects in the double-tube structure that he invented his single-tube tire.

In defining the invention, Tillinghast says in his patent:

Heretofore, pneumatic tires have been constructed with an interior air tube of vulcanized rubber, provided with a covering of canvas, and a separately vulcanized outer rubber covering having all its joints and parts cemented together after vulcanization. Tires so constructed, however, are liable to be rendered useless, owing to the chafing and wear of the parts in contact with each other, and the cemented joints are liable to separation under the strain caused by the constant flexing of the tire at the tread.

It is the object of my invention to provide a tire which will be free from internal chafing, and that will have no joints or parts cemented or otherwise connected after vulcanization, to become separated by use, and that can also be more readily attached to the rim of the wheel, and be easily repaired.

My invention consists in the combination of an annular inner rubber air tube, an outer rubber covering, and an intervening layer of braided or woven fabric, the several parts being joined to form a complete annular tire, while the rubber is in an unvulcanized condition, and then, all vulcanized together, so that the textile layer will become attached by the process of vulcanization, to both the inner rubber tube and the outer rubber covering, and when a loosely woven or braided fabric is employed the air tube and the outer rubber covering will also be united to each other through the interstices of the fabric, the textile covering of the air tube serving to prevent the bursting of the said tube when subjected to pressure, and at the same time allowing the side walls of the tire to yield freely when passing over an uneven surface.

The evidence shows that Tillinghast invented his single tube pneumatic tire, and disclosed it to others, as early as the summer of 1890, and that, consequently, his invention antedates the Boothroyd article in *The Cyclist*, describing a single tube pneumatic tire, which was published in England in December, 1890.

In the summer of 1890 Tillinghast was engaged in perfecting several other improvements in bicycle tires which he thought at the time would yield him a more immediate pecuniary return than his single tube pneumatic tire. These improvements related to a puncture proof tread and an automatic pump; and between April, 1891, and July, 1892, he was granted five patents covering these inventions.

He first applied for a patent for his single tube pneumatic tire November 20, 1891. This application was several times rejected and several times amended. On September 2, 1892, he withdrew his first application and filed a new application, with a request that it be substituted for the old one. This request was granted, and the patent was finally issued on May 23, 1893.

Under these circumstances there is no ground for holding that the patentee is chargeable with any such laches in taking out his patent as to render it void. *Hubel v. Dick*, 28 Fed. Rep. 132, 140; *National Cash Register Co. v. Lamson Consolidated Store Service Co.*, 60 Fed. Rep. 603.

The principal defence in this case is that the Tillinghast patent, in view of the prior art, is void for want of invention.

In considering the prior art as bearing on the validity of this patent the evidence discloses several things which should be borne in mind. Although the rubber tire art goes back to 1877, Tillinghast was the first to produce a practical and efficient single tube pneumatic tire. His invention was not a mere improvement upon prior structures of the same type. The device has proved of great utility, and marks a distinct advance in the art. The Tillinghast tire to a large extent has supplanted in this country all other kinds of tires used on bicycles.

The history of the rubber tire art exhibits several distinct types, known, respectively, as the solid tire, the cushion tire and the pneumatic tire. The advantages derived from the solid and cushion tires are due to the resiliency of the rubber. The pneumatic tire does not depend upon the resiliency of the rubber, but upon the resiliency of the air with which it is inflated. The highly compressed air furnishes the highest degree of resiliency, and the elasticity of the rubber is only incidentally made available. Previous to the Tillinghast invention the only practical pneumatic tire known was the Dunlop tire. This tire consisted of two tubes. It was constructed of a vulcanized inner rubber air tube and a separately vulcanized outer cover, the air tube and the cover being separate from each other. The Dunlop tire was defective owing to the chafing and wear of the parts in contact with each other, due to having the inner rubber air tube separate from the outer rubber cover. It was to overcome the objections to this form of tire that Tillinghast invented his single tube tire, composed of an inner rubber air tube, an outer rubber covering and an intervening fabric, inseparably united by vulcanization.

There is nothing in the rubber tire art which can be seriously considered as an anticipation of the Tillinghast structure. The solid rubber tire and the cushion tire were not adapted to be inflated, and are manifestly different in construction and function. The only prior structures which bear directly on the question of anticipation relate to pneumatic tires. This branch of the art, as revealed in the present record, comprises four patents of pneumatic tires, and the Dunlop tire already commented upon. The earliest pneumatic tire is described in the Thomson patent of May 8, 1847. In this tire the air tube composed of "sulphurized caoutchouc, or gutta-percha," is enclosed in an outer casing made of segments of leather riveted together. This casing also serves to attach the tire to the wheel rim. It is apparent that this structure is not an anticipation of the Tillinghast tire. Reference is

also made to the three Thomas patents, dated March 12, 1889. In these patents the principal feature of novelty consisted in having the tread portion thicker or tougher than the other parts of the tire. These patents do not describe a single-tube pneumatic tire having the structural characteristics of the Tillinghast tire. They do not disclose a single-tube tire composed of an inner rubber air tube, and outer rubber cover, and an intervening fabric, all vulcanized together. The only other tire in the prior art at the date of the Tillinghast invention was the Dunlop tire. This tire, as we have already said, was a double-tube tire, and it manifestly is not an anticipation of the Tillinghast device.

In the construction of a pneumatic tire, Thomson, in his patent of 1847, considered an outer cover necessary for the protection of the inner rubber air tube, but did not conceive the idea of making the inner rubber air tube an integral part of the outer cover. In the Thomas 1889 patent it was thought that a pneumatic tire could be made out of a single annular rubber tire without any intervening fabric. The Dunlop conception embodied a vulcanized inner rubber air tube and a vulcanized outer rubber cover which were separate from each other. This was the condition of the art at the time Tillinghast made his invention. He was the first to conceive the idea of making the inner rubber air tube and the intervening fabric an integral part of the outer rubber cover, and so prevent the inner rubber air tube from creeping or chafing against the interior surface of the outer rubber cover. It is clear that the Tillinghast patent is not void for want of invention by reason of anything which is found in the prior rubber tire art.

Nor, in my opinion, is the Tillinghast patent void for lack of invention by reason of anything which is found in the prior rubber hose art, or in the prior rubber gasket art. It appears from several American and British patents that it was the common practice, previous to 1890, to manufacture rubber hose composed of an inner rubber tube and an outer rubber covering, with intervening fabric, all vulcanized together. As this is not disputed, it is unnecessary to refer specifically to any of these patents. But, notwithstanding this fact, it still remains true that a pneumatic tire is quite a different thing from a rubber hose, and that each belongs to a distinct art. A rubber hose is a tubing of indefinite length open at both ends. It is not an annular pneumatic tube forming a tire. There is nothing in the structure of rubber hose tubing, nor in the various modes of producing such tubing, nor in the uses to which such tubing is put, which affords any suggestion leading to the production of a pneumatic tire. Nor does a rubber hose suggest that a tire having the structural characteristics of the Tillinghast patent would possess any special utility or advantages over other pneumatic tires.

Rubber gaskets were constructed substantially the same as the Tillinghast tire. They

were used for making tight joints in a vessel for treating sugar cane and bagasse. They are shown in the Duval patent of 1887. The Duval structure comprises a large vertical chamber to hold the crushed cane. The chamber is closed at its lower end by a removable bottom, which may be opened to permit the refuse solid matter to be discharged after treatment. The bottom must close against the lower end of the chamber with a tight joint, and to secure this result the joint is provided with a rubber gasket or packing ring. The specification of the patent says:

The said jacket has formed in its lower edge a circular groove, in which is received a tube, G, of india rubber, filled with water under pressure, the said tube forming a packing to make a tight joint between the said jacket and a movable trap, which serves to close the bottom of said jacket and that of the vessel, A.

What has been said with respect to rubber hose may be repeated as to the rubber gasket, namely, that there is nothing in its structure, or in the mode of its production, or in the use to which it is put, that affords any suggestion that a pneumatic tire having such structural characteristics would be of any special utility, or would solve the problem of a practical and efficient pneumatic tire.

In determining the question of anticipation of the Tillinghast patent based upon what was old in the rubber hose art, and in the rubber gasket art, it is well to bear in mind the language of Mr. Justice Brown, speaking for the Supreme Court, in *Topliff v. Topliff*, 145 U. S. 156, 161:

It is not sufficient to constitute an anticipation that the device relied upon might, by modification, be made to accomplish the function performed by the patent in question, if it were not designed by its maker, nor adapted, nor actually used, for the performance of such functions.

The inventive thought of Tillinghast was in the pneumatic tire itself, and not in the method of uniting two annular rubber tubes and an intervening fabric, which method may previously have been adopted for various purposes. The mere fact that it was old to vulcanize together an inner rubber tube, an intervening fabric and an outer rubber cover, in the rubber hose art, and in the rubber gasket art, does not prove that there was no invention in the application of such a method of construction, with such modifications as must be made, to a pneumatic tire. Although hose pipes and gaskets had been manufactured for years prior to the Tillinghast invention, it did not occur to any skilled mechanic that their method of construction could be successfully applied to the production of a pneumatic tire.

From the best consideration I am able to give the question, I am of the opinion that there is nothing found in the prior art which anticipates the Tillinghast patent, and that, admitting the method of inseparably uniting by vulcanization an inner rubber tube, an

intermediate fabric and an outer rubber cover was old in rubber hose and rubber gaskets, the conception that such a form of construction would produce a practical and efficient pneumatic tire constituted invention within the meaning of the patent laws of the United States. The pneumatic rubber tire art dates back half a century. This record does not show that either the Thomson patent of 1847 or the later Thomas patents of 1889 describe practical tires. The Dunlop double tube tire undoubtedly went into general use, but it was defective by reason of its duplex structure. Tillinghast, by uniting the different parts into an integral whole, overcame the defects in the Dunlop tire, and produced a really efficient and practical pneumatic tire.

The Tillinghast invention may seem simple now that it has been disclosed. This is often true of very important inventions. Upon this point it is well to remember the language of the Supreme Court in the case of *Loom Co. v. Higgins*, 105 U. S. 580, 591. In that case Mr. Justice Bradley, speaking for the court, said:

It is further argued, however, that, supposing the devices to be sufficiently described, they do not show any invention; and that the combination set forth in the fifth claim is a mere aggregation of old devices, already well known; and therefore it is not patentable. This argument would be sound if the combination claimed by Webster was an obvious one for attaining the advantages proposed—one which would occur to any mechanic skilled in the art. But it is plain from the evidence, and from the very fact that it was not sooner adopted and used, that it did not, for years, occur in this light to even the most skilled persons. It may have been under their very eyes, they may almost be said to have stumbled over it; but they certainly failed to see it, to estimate its value, and to bring it into notice. . . . At this point we are constrained to say that we cannot yield our assent to the argument that the combination of the different parts or elements for attaining the object in view was so obvious as to merit no title to invention. Now that it has succeeded it may seem very plain to any one that he could have done it as well. This is often the case with inventions of the greatest merit.

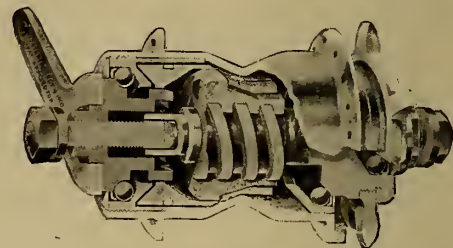
Let a decree be entered for an injunction and account, in accordance with the prayer of the bill.

Will Never see Home Again.

There was but one machine of foreign make used in the six day race last week, as all the contestants from abroad save one used American cycles. The exception was Gougoltz, and he had a disastrous experience with his machine. On Monday night it collapsed under him, throwing him to the track with great violence. The *Bicycling World* man examined the machine, which was of French make, and found that the main frame tube had been sheered off at the lower head, the lug showing as clean a fracture as could be imagined. The top tube had "buckled" under the stress and contributed to the accident.

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The Week's Patents.

688,319. Rubber Tire. Paul W. Litchfield and Frank R. Chamberlain, Chelsea, Mass. Filed Jan. 5, 1900. Serial No. 412. (No model.)

Claim.—1. A tire composed of rubber and fabric, said fabric being tightly woven but having rows of perforations therein extending parallel to the warp and weft threads thereof, whereby not only are the plies of fabric securely bound together by the bodies of rubber extending through said perforations, but said bodies of rubber serve as cushions to elastically resist tensional strain on said fabric in directions oblique to the thread thereof, substantially as set forth.

688,350. Substitute for India Rubber or Gutta Percha and Process of Making Same. Mark Sherwin and Hans M. Mathiesen, Cambridge, Mass. Filed Jan. 14, 1901. Serial No. 43,194. (No specimens.)

Claim.—1. The process of forming a substitute for india rubber and gutta percha consisting in forming a mixture of fatty oils, and a gum or its equivalent reduced by a solvent; then gradually adding sulfur chlorid to the mixture; then adding a coloring agent; and then adding sulfur chlorid, substantially as described.

688,399. Vehicle Wheel. William F. Ellis and Edwin C. Davis, Springfield, Mass., assignors to the Davis Tire Co., Springfield, Mass., a corporation of Maine. Filed Feb. 15, 1901. Serial No. 47,434. (No model.)

Claim.—1. The combination, in a vehicle wheel, of a substantially inflexible rim, a concentric interior shield of the same general contour as the adjacent surface of said rim, and a tire secured directly to said rim by infolding flaps introduced between the same and the said shield, substantially as set forth.

688,419. Bicycle Frame. Robert M. Keating, Springfield, Mass., assignor to R. M. Keating Motor Co., Portland, Me., a corporation of Maine. Filed Sept. 4, 1897. Renewed Sept. 5, 1901. Serial No. 74,378. (No model.)

Claim.—The drop frame for a bicycle herein described, comprising a vertically disposed steering post, a flaring U-shaped upper bar having its front bar or arm connected to the upper portion of the steering post and formed

with a vertically depending stud brace at the middle of the curve of the U-shaped bar and terminating in a transversely disposed horizontal sleeve constituting the crank axle bracket, an upwardly curved lower bar arranged in the same vertical plane from end to end as the U-shaped bar and having its ends connected to the steering post and crank axle bracket, brace studs bracing the curved bars in front of the crank axle bracket, lower horizontal bars fixed to the crank bracket and their outer ends formed to carry the rear wheel, and forked bars connecting the ends of the bars with the upper end of the rear branch or arm of the U-shaped bar, substantially as specified.

688,517. Match Safe Attachment for Bicycles. John L. Held, Bridgeport, Conn. Filed Nov. 24, 1899. Serial No. 738,168. (No model.)

Claim.—The combination with a hollow handle bar externally screw threaded at its outer end, of a collar secured upon the handle bar and internally recessed; a sleeve fitting upon the handle bar the inner end of said sleeve extending into the recess of the collar; a hollow cylinder formed in a single piece fitting upon said sleeve and abutting at its inner end against said collar and a match safe comprising a tube fitting within the handle bar, and a cap at the outer end of said tube formed integral therewith and having an annular internally threaded flange engaging the threads of the handle bar and having its edge abutting against the outer edge of said cylinder, said cap serving the double purpose of a bottom for the match safe, and a securing means for the outer end of the sleeve and hollow cylinder.

688,525. Bicycle Driving Gear. August Johnson, Staples, Minn. Filed March 24, 1897. Serial No. 628,978. (No model.)

Claim.—A riding wheel comprising a frame constructed with an upper bar, a reach, and a head tube, a steering post mounted in the head tube, having a single steering handle bar extending to one side of the head tube, a bearing bracket secured to the upper bar contiguous to the steering post, and a short driving shaft mounted in the bearing bracket, and having a single elongated hand crank working past the head tube at the other side thereof thus adapting the machine to be steered and driven simultaneously by the hands only.

688,659. Bicycle Seat. George W. Man-

son, New York, N. Y. Filed Nov. 17, 1900. Serial No. 36,845. (No model.)

Claim.—1. The combination with two parallel supporting standards, having fixed nuts and extension standards slidable therein, of a clamp screw bar connecting the supporting standards having right and left screw threads on its ends respectively adapted to engage said nuts and to clamp the extension standards in any desired position in the supporting standards, and an operating handle secured to the clamping screw.

688,698. Valve and Inflator Connection for Pneumatic Tires, etc. Philipp Rupp, Eilwangen, Germany, assignor to Carl Brieger, Hamburg, Germany. Filed April 8, 1901. Serial No. 54,913. (No model.)

Claim.—1. The combination of the sleeve, having an internal screw thread, and split longitudinally from its end so as to form elastic arms; the externally threaded stem over which the internally threaded arms fit; and the external sleeve sliding on the sleeve, and serving to press the threaded arms together, into engagement with the threaded stem, as explained.

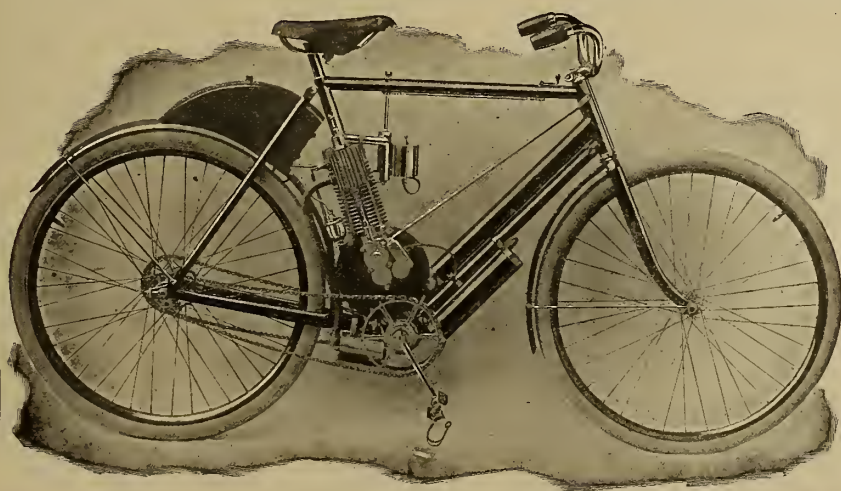
688,743. Vehicle. Rolla A. Morton, San Jose, Cal. Filed March 16, 1901. Serial No. 51,450. (No model.)

Claim.—1. In a vehicle, the combination with a bicycle of a frame with which the bicycle is connected to move relatively thereto, means extending between the bicycle and the frame for effecting such relative movement, and a wheel carried by and supporting the outer part of the frame.

To Further Cycle Inventions.

In addition to the plan on foot for raising a monument to the late J. K. Starley, it has been proposed to perpetuate his memory in another way. The idea is that a gold medal should be given annually to the inventor who, in the opinion of a representative and expert committee, shall have invented the most useful improvement in connection with cycles, the medal to be known as the Starley Gold Medal; and, in addition, that the gold medalist should have his fee paid out of the fund to enable him to take out the final patent.

Motor Bicycle Disappointments



have been many—too many, perhaps. We are not unconscious of the fact. We know what caused them, or most of them, at any rate. And the causes and effects were all taken into account in the designing and construction of the

INDIAN MOTOR BICYCLE

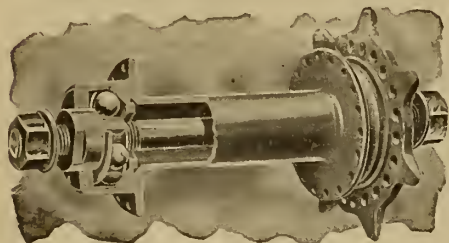
Among other things—and they are highly important, too—it is the profiting from the "other fellow's" experience that has made the INDIAN what it is—the motor bicycle that does what it is built to do and gives what it is built to give, *i. e.*, satisfaction.

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Want one Thing Only.

Devices which attempt too much are rarely successful. Convertable machines—that is convertible from a diamond to a drop frame, or vice versa—never “caught on,” and the same failure attended nearly everything else of the kind exploited in the cycle trade. The “free wheel at will” idea is said to have petered out across the water. Riders want either a fixed gear or one that is free, and neither class looks with favor on a combination of the two.

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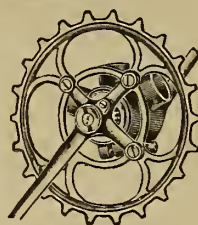
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The Bicycling World

AND MOTOCYCLE REVIEW.

In which is incorporated "The Wheel and Cycling Trade Review" and the "American Cyclist."

Volume XLIV.

New York, U. S. A., Thursday, December 26, 1901.

No. 13

SEPARATES ITS INTERESTS

A. B. C. Transfers Eleven of its Plants to Two new Companies and Retires Behind the Scenes.

To all intents and purposes the American Bicycle Co. has retired from active business; it has divided its interests and willed each a part to two newly adopted sons, yclept the American Cycle Mfg. Co. and the International Motor Car Co. Although ceasing to share the real strenuousness of commercial life, the "daddy" will, however, keep a watchful eye on the "boys" and require that they render accountings regularly.

Described by simple simile, this about relates the occurrence in the affairs of the A. B. C. that for a few days set the trade agog; that is, the incorporation in New Jersey on Thursday last of the American Cycle Mfg. Co., capital \$8,000,000, and the International Motor Car Co., capital \$2,000,000, each with the same incorporators, viz: J. E. Bromley, R. L. Coleman, T. F. Merseles, George Pope and Paul Walton.

These names were, of course, readily recognized as those of A. B. C. officials, and a great wave of speculation and doubt was instantly created.

As a matter of fact, however, it amounts to little more than a separation of the company's bicycle and automobile interests in order that each may stand on its own bottom and paddle its own canoe—a move that has been expected and quite freely prophesied for several months. It came about as the result of a conference of the directors lasting over four days.

The properties made over to the American Cycle Mfg. Co. are the factories actually making bicycles—four in Chicago, one in Hartford, Conn.; one in Westfield, Mass., and one in Hagerstown, Md.—eight in all.

The plants transferred to the International Motor Car Co. are the three that have been engaged in the manufacture of automobiles, viz.: The Lozler and Viking factories, in Toledo, and the Waverley, in Indianapolis.

J. E. Bromley is temporary president of the Cycle Mfg. Co. and Colonel George Pope of the Motor Car Co.

The stock of both concerns will be held by

the American Bicycle Co., which thus becomes practically a security-holding corporation on the order of the United States Steel Corporation, although it also retains all those former cycle factories which it purchased at the time of its formation, and which are now under lease to other manufacturers.

As far as the trade and public are concerned, however, the A. B. C. itself is a thing apart; the new corporations are the ones whose names will be employed, and the ones with whom business must be transacted.

Has Money in the Treasury.

The Toronto (Canada) Bicycle Board of Trade held its annual meeting last week, reviewed the past season's happenings and elected officers to serve for the ensuing year. The association, which is composed of the dealers and repairers of Toronto, is in a prosperous condition. The financial statement presented by Secretary-Treasurer Grove showed that a substantial balance was left after paying all expenses for the year.

The officers for 1902 are as follows: Honorary president and chairman of the executive committee, S. Bulley; president, A. R. Price; vice-president, C. A. Ryerson; secretary-treasurer, G. E. Grove, 362 Yonge street; executive committee, J. Lochrie, Alex. Kaye, H. E. Readman, A. E. Vey, R. Pettigrew, A. E. Humphries, E. Birch and C. Bradfield; auditors, Messrs. Humphries and Green.

Worcester Plant Sold for Taxes.

At auction last week the old plant of the Worcester Cycle Mfg. Co., at Worcester, Mass., was sold for unpaid taxes. The purchaser was the city of Worcester, which has a claim against the property for \$22,550.56 and interest. The sale had been adjourned twice in order that New York parties might have an opportunity to be present, but they did not appear.

The land belonging to the property is assessed at \$118,900 and the buildings at \$16,500.

Adds Automobiles and Changes Name.

The Auto-Bi Co., Buffalo, have added automobiles to their productions, and will hereafter be styled the Buffalo Mobile and Auto-Bi Co. The carriages will list at \$600 and \$750, respectively. The motor bicycle will, of course, be continued, and for 1902 will be marketed in two models—one of 1½ horsepower, the other of 2 horsepower.

WARWICK STILL IN COURT

Assignees are Still Fighting for the \$10,000 Which Went to the Bank.

Although it is now almost four years since the Warwick Cycle Mfg. Co., of Springfield, Mass., went into bankruptcy, some of the odds and ends of the litigation affecting it are still occupying the attention of the courts.

Before Judge Stevens, sitting in the Superior Court at Springfield, last week, the case of Alfred S. Clarke, of Providence, R. I., and J. H. Hendrick, of Springfield, assignees of the Warwick company, against the Second National Bank, was placed on trial.

The case involves the affairs of the Warwick company during the fall of 1897, just before it went into insolvency. The suit is brought to recover the sum of \$10,000 paid to the defendant bank by an officer of the Warwick company at a time when it is claimed the company was in an insolvent condition. The plaintiffs claim that the amount was paid to the bank for the purpose of giving it a preference over other creditors.

The plaintiffs' declaration sets forth that the Warwick company filed a petition in bankruptcy on February 6, 1898, and on the 26th of the same month the company was adjudged insolvent, and in March the plaintiffs were appointed assignees. The plaintiffs allege that on November 13, 1897, the Warwick company was insolvent, and in contemplation of insolvency, and was then indebted to the defendant bank in a considerable sum; that with a view to give a preference to the bank the sum of \$10,000 was paid on account of this indebtedness.

The plaintiffs claim that the defendant then knew and had reasonable cause to know that the Warwick company was insolvent, and that the payment thus made was made contrary to the insolvency laws.

Barwest Meets Reduction.

The Barwest Coaster Brake Co. has met the Morrow reduction. As a result the retail price of the Barwest is now, of course, \$4.50.

TEUTONIC TACTICS

One who Felt Effects Tells how our Tariff was Made a Real Bugaboo.

Only a few years ago thousands of American bicycles were shipped to Germany and there found a ready sale. To-day the German trade is practically non-existent, and the machines once so popular there are now a byword and a hissing in the mouths of patriotic Germans.

This remarkable and sudden change has been brought about by the refusal of the Germans to be longer made the victims of a tariff system which, while seeking foreign markets, erects a Chinese wall for the purpose of shutting out foreign goods. In other words, they decline to buy bicycles from a country which imposes a duty of 45 per cent on machines brought into her territory. This, too, in spite of the fact that the reason is purely a sentimental one, as there could be no invasion of German bicycles even if the duty were wiped out entirely.

Such is the view of the matter taken by G. P. Kievenaar, of Amsterdam, a former jobber of bicycles who is now in this country.

"It used to be that when I travelled in Germany on my regular trips I was proud of the fact that I represented American cycle concerns," said Mr. Kievenaar to the *Bicycling World* representative. "Upon calling on one of my customers or a new firm I would hand in my card, which set forth that I represented So-and-So, of the United States, and I would be welcomed on that score as well as on my own account. Business almost always followed, for the goods were right, and the prices also.

"But a few years later there was a very different story to tell. German cycle factories had sprung up and were striving for the trade. They imitated American cycles, and they were able to meet or beat me on prices. That would not have made any great difference, however, as I could have made sales just the same. But the discovery had been made that while you Americans were sending bicycles to Germany you would not admit German bicycles to America. The 45 per cent duty shut them out just as effectually as if you had prohibited them altogether.

"So it came about that where I had formerly met with smiles and pleasant greetings when I came to sell American bicycles I was now received with reserve, if not with rudeness. No American bicycles for me, was the general cry, and the merchant who did not take this stand willingly was forced to it."

At present the German duty on bicycles is very small, but the new tariff bill now under discussion greatly increases it. It is the opinion of Kievenaar that the bill will not pass, however. There is much opposition

to it, so much that it would not be surprising if it prevailed. If the bill should be passed it would entail great suffering on the poor, as the price of nearly all the necessities of life would be raised in consequence of it.

In Holland the tariff is but a nominal one, being only about 5 per cent ad valorem. Holland is not a manufacturing country, being just the reverse of Belgium, and a tariff wall has not been raised there.

Prices in Germany are almost the same as those ruling here. The bulk of the bicycles retail at from \$25 to \$50, and are almost entirely of German manufacture. The importation of parts is still a flourishing business, however, the bulk of the goods coming from Great Britain and the United States, with the former leading.

Somewhat better prices prevail in Holland. The best chain machines list at from \$50 to \$60, and a large number are in use.

Flint out of Rubber Goods.

Following his retirement from the United States Rubber Co., and reports of his being badly squeezed in Wall Street, Charles R. Flint has resigned as a director and as the chairman of the executive committee of the Rubber Goods Mfg. Co., which he organized. Wallace B. Flint, his brother, has also resigned as treasurer of the company.

Charles R. Flint says that as he intends to form a crude rubber combination he did not think it advisable to be identified with the management of a manufacturing company, which would buy the crude company's products. He adds that nothing but good feeling exists.

A. L. Kelley, of the Mechanical Fabric Co., of Providence, R. I., was elected resident to succeed Charles Stewart Smith, and Alden S. Swan, of the firm of Swan & Finch, was elected treasurer, to succeed Wallace B. Flint.

Lightweights a Feature.

Seven models of the Hudson cycles have been catalogued by the Bean-Chamberlain Co., Hudson, Mich., for the 1902 season.

Four of them, including a woman's machine, are constructed with one-inch tubing, and the weights have been scaled down to a gratifying extent. Thus, a racing model comes out at 20½ pounds, a semi-racer at 22½ and a woman's wheel at 23½ pounds.

Among the special constructional features of the Hudson cycles are rear forks and stays of oval seamless tubing, D. & J. crank shaft construction to the racer and the one-piece type to the semi-racer. An option of two colors is offered, and an original color scheme for the head of the machines has been hit upon, which has been received with much favor. The prices range from \$25 to \$50.

News From Goffstown.

Goffstown, N. H.—The bicycle repair shop situated between the two Paige blocks on Main street has been removed to Depot street, in front of the Boston and Maine Railroad station.

SPRAKER EXPLAINS

Tells why Kokomo is Missing From Tillinghast List and Defines its Attitude.

Although the Kokomo Rubber Co. is the one notable absentee from the published list of Tillinghast licensees, the fact does not appear to give Kokomo serious concern.

D. C. Spraker, manager of the company, was in New York last week, and made the foregoing statement possible. He came and went so quietly that few knew of his visit. He studiously remained away from the Tillinghast headquarters. When the *Bicycling World* man met him Mr. Spraker was at first averse to a discussion of the Kokomo position. He frankly said as much, adding that he preferred simply to let things take their course and meet situations as they arose. When it was pointed out that silence might give rise to false impressions, and he was pressed for an expression of opinion, Mr. Spraker "thawed out" somewhat.

"We do possess a license," he finally said, "and have had one for two years. We lived up faithfully to its requirements so long as the Tillinghast patent lived up to them; there was no violation on our part, and it is a question whether those who, being responsible for its enforcement, permitted others to break the contract, can at their pleasure cancel the license of those who respected it.

"We really do not believe the Kokomo process infringes the Tillinghast patent, but we are inclined to favor and share in any movement that maintains prices and prevents demoralization of trade. That was our chief reason in taking out a Tillinghast license in the first place; the provision requiring the maintenance of price appealed to us, and, once we agreed to it, we adhered to it faithfully; that other licensees failed to do so the trade knows only too well.

"Having lived up to our part of the contract, we do not see that any fault attaches to us. We still hold that contract, and we are inclined to believe that it rests with us to say whether we shall exchange it for a new one.

"I think we will wait a while," added Mr. Spraker. "I think we will wait," he repeated, slowly, "until the Tillinghast people demonstrate that they can enforce their terms and compel all parties to respect their figures."

Of the demand for Kokomo tires Mr. Spraker had no complaint to make. It was only recently that they have been able to keep pace with their orders. It is not overstating the case to say that, despite the rampant competition that has existed, Kokomo quality has been so unvaryingly good that the Kokomo reputation was never brighter.

"We make and have made but two tires," remarked Mr. Spraker—"the best guaranteed tire and the best unguaranteed one it is possible to manufacture. We have not tried to see how many different grades it is possible to produce."

WEBSTER TALKS

Speaks Interestingly of the Morrow and Coaster-Brake Trade Generally.

President Fulton of the Eclipse Mfg. Co., being still under the weather as the result of a severe shakeup in a railroad accident on the Pacific Coast, Ralph D. Webster, the sales manager of the company, has been "swinging around the circle," around which Mr. Fulton himself is wont to swing. The "swing" brought Webster into New York late last week.

After a bit of wheedling he admitted that one of the objects of his visit was a purposeful call on a jobber who thus early had been juggling with the price of the 1902 Morrow.

"There are some people in the trade," ventured Webster, with a half smile, "who apparently have not yet discovered that we are now numbering and keeping a record of each and every coaster-brake we produce. As in this instance, it will enable us to trace the price cutters. We mean to keep after them."

Asked about the status of the suit against H. C. Colton, the Buffalo jobber who was haled to court last year for violating his agreement to maintain Morrow prices, Mr. Webster stated that the Eclipse people were daily expecting judgment which will make their temporary injunction permanent.

"The outlook for 1902?" he repeated in response to the question. "It is distinctly satisfactory. Not only does our own business show a handsome increase, but from all accounts most of the other coaster-brake manufacturers also are doing more business than they ever did before."

"From what part of the country does the biggest demand for coaster-brakes come?"

"New York is easily the banner State, with Pennsylvania next in order. New England also is fertile territory."

"Then the East is a very much better market than the West?"

"Yes; and the demand from the Pacific Coast is much greater than from the Middle West. You will scarcely credit it, but it is a fact that a week or two ago we received a letter from a dealer in an Iowa town of 2,500 inhabitants who had never heard of coaster-brakes, and who wanted to know what they were good for."

"The best 'coaster-brake town'? That's a hard question to answer, but I think our home town, Elmira, is about the best in the country, cycling population considered; it is rare that a bicycle without a Morrow is seen there. It may surprise you to learn, too, that Vancouver, B. C., is another of the 'best towns' on this continent; we have shipped thousands of Morrows out there."

"Has the reduction in the price of the Morrow caused any great ruction?"

"It is not for us to say," replied Webster, with a smile.

The hinged arm that distinguishes the 1902 Morrow chanced to be mentioned; Webster became deeply interested at once.

"That hinged arm," he said, "is an invention second only to the Morrow itself. It has done far more than we ever expected it would do. It was designed to make easier the attachment of the Morrow to any and all makes of bicycle, and to save the trade the time and labor consumed in bending and forcing the old rigid one-piece arm. But we find that not only has it done this, but that it has actually added to the qualities of the Morrow itself. It makes it coast more smoothly and operate better than ever in several other respects. We attribute it to the 'play' or flexibility of the arm; it aligns in the parts automatically in whatever position they may be. Yes, sirree; that hinged arm marks a great advance in coaster-brake construction and application. It is cutting a figure in the trade. Don't make any mistake on that score."

No Chains or Belts Used.

One of the oddest developments of the motorcycle industry is the Derby system of power transmission, which is in use on the other side of the Atlantic. It is not new, having been used on the Continent for several years, and is said to work in a satisfactory manner. There are no chains or belts used, the drive being by means of a pulley on the motor shaft which acts directly on the tire. Usually the motor is placed between the diagonal frame tube and the rear wheel. One can imagine this working all right as long as the tire remains inflated. But then, with a punctured tire on his machine the rider of a motor bicycle would not be apt to ride very far. But the less said about the wear on the tire the better.

Shortage of Juveniles.

Whether the Christmas trade of itself is responsible for it has not developed, but it is certain that for the first time there has been a shortage of bicycles—that is to say, juvenile bicycles. F. C. Gilbert, in charge of the American Cycle Mfg. Co.'s Eastern jobbing department, says while they prepared for a fair trade in children's bicycles they were caught short during the past two weeks and could not begin to fill orders. The local trade in juveniles has also exceeded anticipations. Elliott Mason, manager of the A. B. C.'s retail store, states that the Christmas demand has been much brisker than for several years.

Why Tucker is Ticked.

"It is not for me to go into the reasons why, but it is a fact that, despite the so-called slump, our business has shown an increase each year," remarked J. B. Tucker, of the Tucker Bicycle Woodwork Co., Urbana, Ohio, who was in New York on Monday last. "For 1902 I really believe we have 95 per cent of the independent trade in wood rims."

After being idle for a considerable time, the old John P. Lovell Arms Co. plant at South Portland, Me., has been sold to a concern whose business is not made public.

PERSONS'S PLAN

Connects a Winter Campaign of Interest to all Dealers With his 1902 Model.

C. A. Persons, the head of the Royal Motor Works, is in New York this week with the first of the 1902 crop of Royal motor bicycles.

It should be enough to say that it is as good as it looks; and at that it is admittedly an uncommonly good looker. In appearance the new model does not differ from the bicycle as it is familiar to the trade. The carburetter and method of lubrication have been considerably refined, and a copper instead of a galvanized-iron gasoline tank is now employed; these constitute the chief alterations.

Persons is, of course, full of enthusiasm, and with a healthy volume of orders in hand and a considerably increased output in sight he sees a big year ahead. He is likewise full of practical ideas on the subject.

"The bicycle dealer never had such opportunities for effective winter work as the motor bicycle now affords," he said in advancing one of the choicest of these ideas. "If I was in the retail trade I think I could make a Royal crowd my store and turn out prospective buyers every day or every evening throughout the winter, even if the winter lasted six months."

"There are a very few people who are not interested or who cannot be interested in motor bicycles. They will go out of their way to see one. But most of such people have an idea that a self-propelled bicycle of the sort is a dangerous or complicated and mysterious contrivance quite beyond the understanding of the average man. Now, just fancy how the dealer can make business for himself in disabusing their minds of such ideas! He need but jack up the rear wheel of the bicycle and then invite his townspeople to call and not only see the bicycle in operation, but to actually try it. He can keep himself busy all winter educating them."

"Let him put his callers, in turn, on the bicycle, and let them start it going themselves; let him teach them the functions of the different levers—how to start and stop it, how to increase speed and how to reduce it, how to throttle the mixture and how to enrich it; let him explain the workings of the motor and the carburetter and the other devices, and if he does not develop a choice lot of enthusiasts who will 'come around for more,' and who, when they learn 'how easy it is,' will not be happy until they own one of the bicycles, then I miss my guess badly."

"Why, it's just like manufacturing customers!"

"Perhaps I may be too enthusiastic," went on Persons, "but truly I do believe that since bicycles began the retail trade has had nothing to compare with the motor bicycle. If dealers will but realize the fact and make the most of it—if they will but see the glorious opportunities made possible by such a winter campaign as I have suggested—it will require but one good road ride in early spring to bring enough orders from the 'pupils' to tax the capacities of all who are able to turn out motor bicycles."

NATIONAL BICYCLES

Boulder, Colo.,

November 4, 1901.

We are much pleased with
Nationals. So are the riders.

THE CHAINLESS IS PERFECTION.

We are going to make them the leaders in this city for 1902.

Yours truly,

NEIHEISEL BROS.

"The good name that
endures forever is count-
ing for more than it ever
counted before."

—*Bicycling World*, Dec. 12, 1901.

NATIONAL
CYCLE MFG. CO.
BAY CITY MICH.

Equal them—If you can.

Investigate the merits of other tires—find out what they are made
of, how they are made and how much they cost. Then look up the

FIK TIRE.

It will stand investigation. It will stand comparison. It will stand
use. Why? Because it is made right—right materials, right methods of
construction.

You cannot find a better tire than the Fisk—you can easily find
many that are inferior to it. All we ask is an investigation.

FIK RUBBER COMPANY, Chicopee Falls, Mass.

BOSTON,

604 Atlantic Ave.

SPRINGFIELD,

40 Dwight St.,

NEW YORK,

83 Chambers St.

PHILADELPHIA,

916 Arch St.

SYRACUSE,

423 So. Clinton St.

BUFFALO,

28 W. Genesee St.

DETROIT,

252 Jefferson Ave.

CHICAGO,

54 State St.

SAN FRANCISCO,

114 Second St.

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Members of the trade are invited and are at all times welcome to make our office their headquarters while in New York; our facilities and information will be at their command.

To Facilitate Matters Our Patrons Should
Address us at P. O. Box 649.

NEW YORK, DECEMBER 26, 1901.

For a Prosperous New Year.

It is a simple matter to turn off of tongue or pen "A Happy New Year," to extend "the compliments of the season" or to express the wish "A prosperous year."

Such felicitations are usually well intended. They are seasonable, and they make for at least the temporary good cheer of the universe.

But, after all, one's happiness and prosperity depend largely upon the individual. All the well wishes that language can convey can bring neither happiness nor prosperity to the man or men whose mental or physical makeup opposes them. It is not in some men to be happy. It is not for all men to be prosperous.

In conveying the compliments of the season to the men who constitute what we term the cycle trade the conveyance is done heartily and in all sincerity. In expressing

the wish or hope that the new year may be to all a prosperous one we know that it can be and will be only as prosperous as each man makes it. If the Bicycling World can contribute to the health and wellbeing and prosperity of the trade, there is small need to say that the contribution will be made; it is a part of our mission.

Generally speaking, the year 1901 has been neither a cheering nor a cheerful one. The promise of a prosperous twelvemonth was early blighted by continued and unusual rains, succeeded by intense and abnormal waves of heat. It made the year's business so bad that there cannot well be worse. It is in this cloud that lies one of the silver linings. The past having been "so worse," the year to come is due almost to absolute certainty to be a better one, and anything in the nature of betterment is in the nature of prosperity—and there you have your "prosperous new year."

It will profit no purpose or person to wail or weep over the might-have-beens. Such wailings and weepings should be stilled. The man of little faith and less backbone should "betake himself hence" as quickly as possible. The cycle trade has been too full of him. His complaints and pessimisms, his indignant thoughts of booms that have passed, have served to dispirit the trade as much as anything else; his blind and fruitless groping at that will o' the wisp, automobilism, and his beckoning on of other fools to where "angels" only should yet tread, has divided energy and spread it out thinly, and thus added to the year's discomfiture.

The cycle trade has small room for such men. It is no longer the abiding place of Luck. It is no longer a refuge for the weak, the halt and the blind. It is a workshop for MEN, and for men only. The year's gloom has brought real manhood—has brought Pluck to the surface. The wailers and weepers, the wishers and doubters are further behind than they ever were. The ascendancy of Pluck is daily becoming more manifest. It is charging the atmosphere with faith and hope, with cheerfulness and resolution, and its area is spreading. It is making for a prosperous new year—a year

of such prosperity, we believe, as the cycle trade has not experienced since it was touched by the hand of Despond. We believe the year 1902 will see the cycle trade lifted clear of the slough.

Do your part—play a man's part, take a man's chances—and belief can be made certainty.

Here's to you and each of you! May you play the part intelligently and well, and add your quota to the year's prosperity!

Turning Winter to Advantage.

Winter was ever the retail cycle trade's season of discontent. "The way out" was ever difficult. But certainly, as Mr. C. A. Persons points out in another column, the motor bicycle has provided for the dealer a "winter campaign" such as was never before afforded him.

What Mr. Persons says is beyond dispute. The dealer with a motor bicycle can keep himself busy all during the winter "manufacturing customers."

That there is widespread interest in the bicycle that "robs hills and head winds of their terrors" is undoubted. That there exists also a general idea that it is dangerous or hard to manage and too complicated for the understanding of the average man is as certain.

One of two methods may be employed to combat and dissipate these impressions. The public may be left to absorb information as it filters out in the natural evolution of time and events, or the same public may be taken in hand and by actual demonstration be educated and shown the fallacy of their ideas.

It does not require the gift of second sight to discern which is the speedy and efficacious method.

No procedure is simpler than to raise the rear wheel of a motor bicycle off the floor, to place a man in the saddle and let him start the engine going, and then by instructing him in the manipulation of the levers to "let him see for himself just how the thing works."

Most men would relish the opportunity, and we, like Mr. Persons, are convinced that dealers have but to extend the invitation to their respective publics to fill their stores with interested men, each of whom cannot but become not only a living advertisement, but a possible customer.

It is a happy suggestion, and one worthy of general heed. No dealer possessing a

motor bicycle should require a second urging. The opportunity is one of those that "fairly yawn."

There is nothing that so quickly and completely converts and enlightens a man as person experience, and the clever and courteous merchant who is cordial in his welcome and diplomatic in his "Come again" can ask for nothing better than the winter opportunity thus afforded.

It can literally transform "a winter of discontent" into a summer made glorious by prospects of profitable sales.

The High Gear Rut.

Constant dripping will wear away the hardest stone, it is said; and it is on this theory that we return to the matter of high gears.

Warnings without number have been sounded on this subject. It has been asserted that high gears, more than any other single cause, have hurt cycling as a pastime. High gears mean increased speed, of course, but they also mean increased work; and when, by reason of increased work, increased speed is materially reduced, there is both a relative and a net loss.

Riders by the score, the hundred, the thousand even, can be found who have been brought low by the use of high gears. They add materially to the work entailed, and this increase takes place just where it was already too hard—that is, on the hills and against the wind.

In the beginning the increase in gears was both logical and commendable. The solid tired safety of 50 pounds or upward needed a very different gear than the subsequent 25-pounder, shod with air tires; and the change from a standard gear of 56 inches to one of 70 inches or thereabouts took place in a few years, and with excellent results.

Had it stopped here all would have been well. Any robust and experienced rider can push a 68 or 70 gear without inconvenience or undue fatigue.

But when the rise continued, and 80 and 90 inches were reached by leaps and bounds, the vantage ground of reason was left behind and that of folly entered upon. The craze for such gears affected all classes, and they were used by the weaklings as well as the "scorchers."

Worst of all, the movement became comprehensive enough to take in the women riders. They began to use 70's and 80's, when they would have been much better served by 60's.

To-day, in spite of the slight reaction that has taken place, and which swept the "freak" gears of a few years ago away, the standard gears are much too high. An all around reduction would be of material benefit to the public and trade, and would meet with little or no opposition, yet it is not made.

For this the trade is largely to blame. Makers could put out and dealers could sell machines with lower gears if they made an effort to do so.

But the gear matter has got into a rut. No one takes the trouble to get it out, or seems to think it either necessary or desirable that it should be got out.

Some day the awakening will come, the gears will go down, riders will be pleased, and then every one will wonder why the change was not made sooner.

The Fall of the Mighty.

While most people have a vague idea that the L. A. W. has suffered a great decline in membership and interest, there has been small appreciation of the real immensity of the fall. This is made plain by the communication of Secretary Bassett, published in another column. From 100,000 members in 1898 to 10,000 in 1901! From forty or more State organizations in 1898 to five live ones in 1901! And during these periods two presidents drew each from the National treasury \$3,500 per year—some \$70 per week—and another \$2,000, or \$40 per week. What a story of official neglect or incompetence these figures convey!

Mr. Bassett's idea of local organizations is undoubtedly a happy one, but unless the League can find a president who will not merely appoint committees, but who will himself work and see that his appointees work, there is small hope. The L. A. W. already has a committee on local organization. One of its members has testified in the *Bicycling World* that though anxious and willing to work, the chairman has not turned a hand during the year.

It is this state of affairs that has undermined the League. The right men have not been in the right place. Unless they be found, and found speedily, we fear the case is hopeless.

Small Investments, Large Returns.

In living within his shell and paying no attention whatever to anything that does not directly concern himself and the particular wares that he handles, the average

dealer permits many good ideas and good things to escape him.

There are few catalogues or circulars issued by manufacturers that do not contain or convey some information or suggestion that the clever merchant cannot turn to his advantage at some time or other. Merchants of the sort realize that it is the height of wisdom to keep posted on the doings and sayings and productions and features of or claims made for the productions of the "other fellows."

There are few investments that promise better than the one or two cents expended for the postage stamps required to bring the catalogues of any and all persons engaged in the trade in which the particular merchant is interested.

One Cause of Improvement.

Once more it is being prophesied that the ranks of buyers will next season be considerably augmented, owing to the wearing out of thousands of machines that cannot possibly be made to do service for another year.

It is asserted, and perhaps with considerable truth, that many of the owners of such machines would have come into the market during the past season had not the almost unprecedentedly bad weather acted as a deterrent. By the time the season had become well advanced these wheelmen decided to wait another year, and managed somehow to make their old machines last them through the summer and fall.

But, in 1902 they will not be able to defer purchasing, and they will be joined by thousands of others who have machines three, four, and even five years old.

There is no reason to doubt that these expectations may be realized in part.

Bicycle will wear out, and the evil day—for such many riders now regard it—cannot be put off indefinitely. Unquestionably that day is at hand for no inconsiderable number of riders, and their regret will be quite balanced by the joy of the dealers who will make the sales.

It will come even easier to write "1902" than to prevent tongue and pen from forming that facile abbreviation, A. B. C., which for two years has stood for so much in the cycle trade.

Some good has come out of evil, in that there is not so much seen, or heard, of the "lady" rider who disports in bloomers on diamond frame machines.

ORIENT BICYCLES

Motor
Cycles
and
Auto=
mobiles

MODELS FOR 1902
ARE NOW READY.

WRITE FOR AGENCY.

The Orient line for this season is a winner.
Eight elegant models ranging from \$30 to \$50.

Hand=
some
New
Catalog
is now
in Press

WALTHAM MANUFACTURING COMPANY

WALTHAM, MASSACHUSETTS

From Talk to Facts.

Coaster-brakes wear and get out of order; then they're worse than useless.

The Forsyth coaster-brake will outlast the wheel itself, and is always in perfect order.

WHY? Because it is adjustable the same as an ordinary bearing without removing the wheel from frame.

IT IS THE ONLY COASTER-BRAKE IN THE
WORLD THAT IS AT ALL ADJUSTABLE.

The reason is that it is not a "box of tricks"—there's no complicated or delicate mechanism about it; in fact, it differs little from an ordinary hub in its simplicity.

It is frictionless—spins forward or backward, and will not carry even the small sprocket with it—coasts in a braking position, and coasts as freely as a wheel without a chain.

No provision for "flooding with oil"—the Forsyth doesn't need it; will run an entire season without **any** oil. In short, the Forsyth represents the boiled-down goodness a coaster-brake should have.

EVERY MANUFACTURER, JOBBER AND DEALER SHOULD CARRY IT.

IT REPRESENTS PROFIT AND SATISFACTION. ELECTROS FOR THE ASKING.

Forsyth Manufacturing Co., Buffalo, N. Y.

COPELAND GETS DECISION

Robinson's Attempt to Upset his Coaster-Brake Patent Fails of its Purpose.

The interference case of William Robinson vs. James S. Copeland, of Hartford, Conn., which has been for some time pending before the Patent Office authorities, has been decided in favor of Copeland.

The case involved a coaster brake covered by Copeland's patent, No. 679,185, filed April 29, 1898, and Robinson's, No. 730,817, filed September 18, 1899. Mr. Copeland's connection with the Columbia factory giving the matter more than usual interest. Colonel Charles L. Burdett appeared for the Hartford man. After hearing the arguments, Commissioner Allen rendered decision as follows:

This is a petition by Robinson taken under the following circumstances:

It appears that on May 4, 1901, this interference was dissolved by the Primary Examiner. On May 15, 1901, the Primary Examiner requested that the interference be returned to him for the purpose of correcting an error in his decision dissolving the interference, and it was accordingly returned to him on May 22. On May 23 he corrected his decision to the extent that instead of dissolving the interference he dissolved it as to the first five counts, leaving the sixth count as the sole issue of the interference. On May 22, 1901, Robinson filed an amendment cancelling the five claims forming the first five counts of the issue and substituting therefor eleven new claims. This amendment was not received by the Primary Examiner until after he had corrected his decision and was not considered by him. On June 8, 1901, Robinson filed a motion before the Examiner of Interferences that his application be amended as proposed in the above-named amendment, and with this a motion that this first-named motion and all the papers in the case be transmitted to the Primary Examiner for his action on said amendment. The motion to transmit was

denied by the Examiner of Interferences, and limit of appeal was fixed for June 25, 1901.

From this decision of the Examiner of Interferences Robinson took no appeal; but on the 23d day of July, nearly one month after the expiration of the limit set, he filed this petition, "that all papers in this case be transmitted to the Primary Examiner, together with the accompanying motion to amend and substitute and to suspend said interference or dissolve and redeclare the same."

Robinson having failed to take his appeal within the time limit set, should not now be heard except upon a showing of sufficient excuse why the appeal was not earlier taken, and in the absence of such showing this petition, which amounts to an appeal, should be denied. He alleges, however, that he had up to the time of filing this petition "received no official communication denying said motion or setting any limit of time to appeal to the Commissioner, and that he does not believe that any such notice was ever sent to his correct and well-known address."

The record shows that a copy of the decision of the Examiner of Interferences was sent to Robinson in care of Kenyon & Kenyon, New York, N. Y., whom he had appointed as his attorneys for the purpose of taking testimony, but for no other purpose. It does not appear, however, that Robinson was notified of this decision, nor that he became aware of it prior to the expiration of the time limited for appeal.

In view of the doubt, therefore, as to the sufficiency of the notice to Robinson, this petition, which is in reality an appeal from the decision of the Examiner of Interferences, will be considered as if it were an appeal.

It is the well-settled practice of the office, as expressed in Rule 130, that amendments to the specification will not be received during the pendency of an interference except in the cases provided for by Rules 106, 107 and 109. (See also *Bechman v. Johnson*, 48 O. G., 673; *Curtis v. Marsh*, 92 O. G., 1236.) No good reason appears for departing from this practice in the present case. The proposed

amendment if received would necessitate a suspension of the interference for the consideration of the proposed claims on their merits. It might prove that they are unpatentable or that if patentable they are such claims as could not be made by the other party to the interference, or if patentable and capable of being made by the other party it is possible that no useful purpose would be subserved by their incorporation as issues in the interference, for the question of priority, which is the sole question to be considered in interference proceedings, might as well be decided upon the remaining issue.

Whatever the effect of the proposed amendment might be, it is clear that it would result in great delay of the interference and in hardship to the opposing party. (See *Potter v. Van Vleck v. Thomson*, 95 O. G., 2484). Moreover, the orderly conduct of business in this office requires that an interference should not be interrupted for the consideration of questions which are *ex parte* in their nature.

It is urged on behalf of Robinson that as the proposed amendment was received by the office before the interference was reinstated it should have been considered by Examiner. It appears, however, that Robinson's application involved in this interference was involved in another interference at that time, and is so at the present time. For this reason alone no amendment to the specification could be received, whatever disposition might be made of this present interference.

The petition is denied.

It is said that an effort will be made next year to revive professional cycle racing in Great Britain. At present the sport is as dead as the proverbial doornail, and has been for some time. But one would naturally suppose that a revival of the pastime, such as has undoubtedly taken place there, would herald a similar happening to the sport. In this country it was the sport which recovered the sooner. Optimists take pleasure in figuring it out that the pastime will take a brace next season, and there are not wanting signs to support this belief.

1902
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THE BEAN CHAMBERLIN MFG. CO.,
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which to catalogue

THE Smith Two-Roller Spring Seat Post

we want to hear from him at once. This is
very important.

We have something
interesting to say to **YOU.**

WRITE TO-DAY.

JOS. N. SMITH & CO., Detroit, Mich.

FALL OF THE MIGHTY

Secretary Bassett Brings Figures Showing the League's Decline—No State Elections Held—What He Suggests.

Editor The Bicycling World:

Will you kindly allow one who has very much interest in the L. A. W. to enter the symposium you have established regarding the present condition and the future possibilities of the L. A. W.? I have written my ideas more fully than I expect you to grant me space for, to be published in our official organ January 1; but I will give them to you in brief.

Let us look at some of our best records. January 21, 1898, we published a total membership of 103,293. January 1 we have 10,754. The three larger divisions reached figures as follows:

	Then.	Now.
New York.....	26,983	3,091
Pennsylvania	24,979	1,887
Massachusetts	12,899	2,125

All things cycling have suffered a decline. We have to admit that. The L. A. W. has suffered no more than other interests.

I believe we should recognize the situation and apply the remedy if we can find it.

I firmly believe that the division system of work has proved a failure. We have no more than five active divisions, where we once had fifty. The divisions are so dead that not a single election of officers has been held this year. In a few divisions nominations have been made by committees and the nominees have been declared elected. Three-fourths of the division officers this year, and last, are, and were, holdovers in office in default of elections. More than half the divisions are without officers. Like derelicts at sea, they float upon the sea of trouble. Such large divisions as Illinois, Ohio, Colorado and Tennessee are now without even the semblance of organization. West of the Mississippi we have no divisions at work save Missouri and South California. We have but 750 members west of the Mississippi, and only 606 in the entire South.

With our reduced membership it is not a profitable task for one man to cover a whole State. The result is that nothing is done. Out of 10,000 members 7,000 are in the three large States of New York, Pennsylvania and Massachusetts. In forty-seven districts outside these large States our membership is but 3,000. Facts could be piled on top of one another to an indefinite height to give further demonstration of the failure of divisions.

You speak of W. B. Hassan, of Indiana, as one ready and willing to work. True enough; but look at the disadvantage of his situation. The Indiana members are, or have been, in Indianapolis. Hassan is at Jeffersonville, one hundred miles away. He would

be a good man for us at the head of a consulate at Jeffersonville, but we can expect little from an attempt to run a body of men living a hundred miles away. A Chicago man can hardly be expected to do good work at the head of a Peoria body, nor can we expect much from a Philadelphia man who tries to steer a lot of members in Pittsburg, which is further from Philadelphia than Boston is.

My idea is to require a State to show 1,000 members before it can have a division. Then bring in the consulate to work in the smaller divisions and in the latter as well.

In this way we have men organized in localities where they can be in touch with each other. Every large city should have a consulate. If Buffalo, Albany, Elmira and Rochester had active consulates there would be more work done and more members to do it. Give the consulate a drawback on the dues in every instance. If the consulate is under an organized division, the division should give the drawback; otherwise the national body.

The associated cycling clubs that were at one time on earth did more work than did the divisions. The little consulate down in New Bedford is the only live thing in Massachusetts. The two little towns of Torrington and Winsted, Conn., have a large majority of the membership in Connecticut. They have local cycling organizations that get at the wheelmen. The big cities of the three large States show a majority of wheelmen, and the great falling off in membership has been in the remote sections, where men can't get together. The back-country members complain that they pay out money to have it spent in New York, Philadelphia and Boston. Encourage the smaller cities to organize consulates, and we shall see something, if it is no more than an occasional fraternal dinner.

And so we would encourage the consulate. Give it a drawback. Let men get in touch with each other, and not do all the talking by mail.

Moreover, I would give the member an interest by giving him something to do. Let him vote for officers and let him vote on constitutional amendments. Nothing gives a man such an interest in his country as does the annual election. The National Assembly is an expensive institution, and it encourages political strife. Every National Assembly for several years has been a crisis, and men have stood around with daggers drawn to knife political opponents. Very much will be said in this particular about the loss of the debate on important questions. We have never seen a vote changed by debate on important questions in the Assembly. Minds are made up before the meeting is called to order.

Little by little and piece by piece the divisions have been taking away the work of

the national body for years. They have taken the work away and then they neglect it. We believe all renewals should be notified from headquarters, and that the dues should be sent to headquarters. There are a few divisions that are active, and they are active only in this respect. Officers are maintained in divisions for little or no other purpose than to notify renewals; a work that could be better done from headquarters. Why make two bites of a cherry?

We should have a good hotel system, a good consul system. We should issue road-books and handbooks at small cost. We cannot afford to give these away. We should do much more in this line, and it should be done under a uniform plan. Under the division scheme we have fifty different minds working upon every undertaking and no way to harmonize them.

Our prejudices against foreigners have prevented us from following in the footsteps of the organizations across the water. The C. T. C. and the T. C. are successful beyond anything we have achieved. While we are at the foot of the hill they are climbing. They have full treasuries and large membership rolls; we have neither. We have a debt. We must put aside prejudices and political strife and place the L. A. W. on a firm basis.

At the meeting of the Assembly I shall present amendments to the constitution in accordance with the ideas I have presented, and shall hope to see them prevail.

ABBOT BASSETT.

Editor The Bicycling World:

Referring to the correspondence in your paper about the condition of the L. A. W., let me offer a crumb. Several years ago Michigan elected a Chief Consul who is in the printing business. We began to have printed matter to burn. All sorts of circulars and blanks were turned out of the Consul's printing office. Result: A big debt. For the last two years President Earle has been our Chief Consul, and he has refused to pay any part of the big debt. And now the printer Consul has got himself elected again for the avowed purpose of collecting that debt. Where do we come in? What is the member from Michigan going to get for several years to come? We are in no way responsible for that debt, but we have got to pay it. That's the way the L. A. W. is run in the West.

DETROIT.

How Sidepath Licenses Hurt.

Editor The Bicycling World:

I wish to ask the opinion of your readers on the bicycle license question. While it is admitted that we have better cycle paths, they are not as good as they should be, considering the money received. We had nearly as good paths in the old days of L. A. W. and local bicycle clubs. Every dollar received was spent where it would do the most good; there were no sidepath commissioners to be paid.

Before there was a license we used to have ten or twenty century runs a week; now we

have none, because if a run of two hundred riders came into Suffolk County (N. Y.) it would cost them \$100 for license fees, and most of them would never have use for them again.

The license may be all right for us home people, but it seems as if some provision should be made for a rider who only wants to ride a day or two in the county.

If the L. A. W. would look into this matter, instead of talking good roads and league hotels which wheelmen won't use as long as they have to pay a bicycle license, they would be doing something that most wheeling clubs would thank them for. I read that bicycle runs are dead in some sections and booming in others. Now, take, for example, Queens County, where there is no license required; see the dozens of runs there every Sunday. Yet in Suffolk County, where we must have a license, and where paths are good and the scenery prettier, we never have a run now. Let us have opinion.

A PATCHOGUE DEALER.

British Handle-Bar Backwardness.

It is considerably more than half a decade since adjustable handle bars came into use in this country, and to-day they are almost universal. No maker and few riders would think of going back to the old type of fixed bar.

Yet to the British rider the adjustable bar is almost unknown, or where known is frowned upon and tabooed because, forsooth, it is one of those "contraptions" popular in America!

Even so well informed a writer as "Veteran" in the Cyclist sings the praises of adjustable bars and says that "some years ago there was an adjustable bar brought out, but it did not seem to go," and winds up by saying that the subject is one of considerable interest! The only way he can see of obtaining such bars is to have them specially made!

"I recently purchased a machine for one of my colleagues (a novice), and when it arrived it was fitted with handle bars of the upturned style," he says. "After using them for a few weeks, he had them changed for bars of the slightly dropped order, but these gave him no more satisfaction. His chief trouble was his wrists aching, which became so bad that he was compelled to wear leather wristlets.

"He confided his woes to a local maker—I wish I knew that merchant's name—who at once prescribed for him, and changed his handle bar for a specially designed one at a cost of 1s 6d. The man had suffered from weak wrists himself, and thought the matter out, with the result that he has produced a bar of which the handles are fixed at such an angle that the wrists, when one is pulling, are in a normal position. In nearly all our bars, when we pull from the handles, the wrists are bent; hence to most of us handles are superfluous, and what pull we get is from the bar itself, over which we hang our fingers.

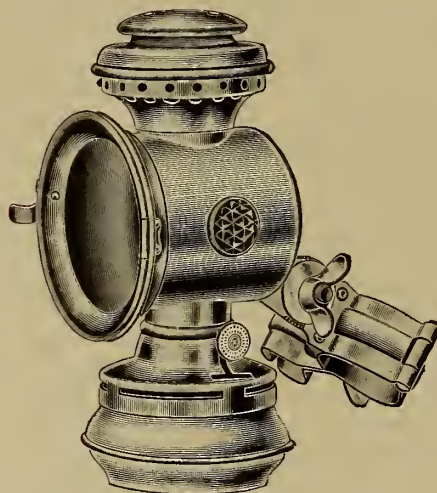
"Some years back there was an adjustable

handle bar brought out, but it did not seem to go. I feel pretty sure that if I had a bar of my own particular fancy, cowhorned horizontally (as regards the stalk) forward, but then bent down, say about a couple of inches lower than is now the case (it is an ordinary rational handle bar), I could get better results out of the machine than at present, as when riding hard uphill my wrists are punished.

"The subject is one which is of considerable interest to long distance riders. It is like the saddle question, and does not appeal to the potterers, who neither ride fast nor far enough to find out the merits or demerits of anything cycular."

The Solar That Burns Oil.

That the Badger Brass Mfg. Co., who "made acetylene famous," should include a Solar oil lamp in its productions for 1902 is, as the *Bicycling World* stated several weeks since, one of the surprises of the season.



Considerable interest in the new lamp has naturally followed. It is shown by the accompanying illustration.

It is made entirely of brass, richly nickel plated, is six inches high and has removable top head, aluminum reflector and wick lock burner. It is fitted with two and one-half-inch double convex lens, three-fourths-inch red jewelled side lights, combination head and fork bracket, and has a large capacity wool packed oil fount to prevent oil slopping. The price, \$1.50, is not the least interesting feature of the lamp.

Opposes Rotary Cranks.

In the good old days, when constructional features were made much of and their discussion furnished meat and drink to the average cyclist, there were two topics of perennial freshness. One was the crank versus lever method of driving; the other the manifold defects of the chain drive.

It was never very difficult to prove that the lever could give the crank cards and spades and a beating—in theory; or that the chain drive was unmechanical and a dozen other "uns"—also in theory. But in spite of this the lever dropped out of sight, and until the bevel gear was perfected the chain never met opposition, and even now it is still far

in the lead. Nevertheless, these repeated failures daunted only those who fought the battles. Others invariably sprang up in their place and renewed the fight.

It has remained for an English rider, under the nom de plume of "Tints," to add variety to the crusade against cranks—or at least against rotary ones—by undertaking to prove that they are responsible for the difficulty most cyclists find in climbing steep hills.

All that is required to make this hill work a joy forever is for the maker so to arrange the crank movement that the desired, or required, amount of pressure can be exerted at all times. How this is to be done he does not say. But that it is easy he is very positive, thus setting at naught all preconceived ideas relating to the subject and effectually, if somewhat vaguely, disposing of the dead centre bogie.

Assuming to be correct figures showing that a pressure of 150 pounds exerted on the pedals is all that is required to take a bicycle up a 1 in 5 grade, "Tints" goes on to say:

"My grumble with the cycle of to-day does not take the form of denying that it beats walking into fits, or that it is superior to the cycle of yesterday. It consists in pointing out that the pedal is arranged to move in a circle, as if the foot were fitted to drive with equal ease at all points; whereas it is perfectly plain to me that the foot can work almost infinitely better in the vertical than in the horizontal direction.

This brings me to the second condition required of the machine which shall mount 1 in 5 with slightly less exertion than the pedestrian must exert. This condition is that the 150 pounds pressure must be in the proper driving direction, whether the pedal is to be urged forward, downward or backward. Now there may be men who can find 150 pounds pressure at right angles to the line joining the crank bracket to the hip joint at the upper dead centre, once in a way, and even at the bottom dead centre; but any man of 150 pounds weight outside a hospital can find 150 pounds in a downward direction, for he has only to stand on the pedal. Hence if he can walk, he can ride the 1 in 5 hill, provided the crank happens to be horizontal.

"Now, there is no valid reason why the 'cycle engineer,' as soon as he can be brought to see the point, should not arrange his driving movement so that the leg should always work at its best, and when that is done, seeing that a healthy man can easily bring more than twice his weight on the pedal in an approximately downward direction, it is plain that no hill will be really serious till the driving wheel backslips instead of driving, and on such a slope the pedestrian would do well to provide himself with an alpenstock."

The Retail Record.

Adams, Mass.—W. F. Kirkpatrick succeeds M. J. Curran.

Kalkaska, Mich.—Frank Eckler, fire loss.

HEIGHT OF FRAME

Mention of the Subject Draws Reminiscences From a Dealer.

"It did not appear very amusing at the time, but as I look back at it now I am able to enjoy a good laugh at my experiences during the crazes for high and low frames, respectively," remarked the dealer whose knowledge went back to the beginning of cycling.

"During 1896 and 1897 it was the high frame that was the 'glass of fashion and the mould of form,'" he went on.

"The distress of the short-legged riders was something pitiful to contemplate. It was almost as bad as in the days of the high wheel, when the man with legs for a 50-inch machine stretched them until he could bestride a 56-inch, and thought seriously of trying a 58-inch. With the safety at the time I refer to the effort was to reach a 26-inch frame. No one wanted anything less than this, and if a rider was a fraction of an inch over 5 feet 10 inches he talked seriously of a 28-inch frame.

"The 22-inch frames were not looked at except with contempt. Even the 24's were treated with disdain, and miserable indeed was the little fellow who could not, even with saddle post down on the frame and the lowest spring saddle obtainable, stretch a 26-inch.

"We ordered a number of 28's made for us by the factory, and although the owners had to wait for them they never complained. We even built a 30-inch frame in our own shop, and its owner was the proudest man in town for a while. He was pointed out wherever he went, and if he left his machine in front of a store a crowd collected around it in short order and made all sorts of admiring remarks about it.

"But the high frame craze was short-lived. By the middle of 1897 the tide had changed, and I saw that low frames were coming.

"You never saw anything change so quickly. In less than a month the word had been passed around, and everybody began to look askance at the high frames. We have a number of them in stock, and although I tried to work them off early it was as much as I could do to get rid of them. If I had waited a few weeks longer it would have been impossible to work them off.

"It was really funny to watch the fellows tumble all over each other in their eagerness to plump for the low frame. This time the long-legged chap was at a disadvantage, while the short-legged ones just hugged themselves to think that their chance had come. They went in for 22-inch frames, and even 20's, and were not compelled to use much saddle post, either. It was this saddle post idea, however, that gave the long-legged riders their opportunity. By using a lot of post they were able to ride low frames, and

it was very funny to see the riders of 26's and 28's drop to 22's and try to persuade themselves they liked it.

"Such a time as we had with seat posts and handle bars! The factories soon 'got on,' of course, and began to turn out posts with long stems. But they could not gauge the extent of the new craze, and it was not strange that their longest posts were too short.

"Then we had to make posts ourselves. We did not like to do it, for it was a lot of bother, and, besides, it was hard on the frames. To stick a 10 or 12 inch post in a frame and put a great hulk of a man on a saddle on one end of it did not help the frame any. The post was simply a lever, constantly exerting its force to bend something; and if we reinforced the post itself the frame had to take the hard knocks. Still, we had to do it, for the cyclist of that day would not take 'no' for an answer when he had set his heart on a thing.

Has a Hexagon Head.

The "something new" that counts for so much marks the Wolff-American racer of 1902. The frame is of one-inch tubing, ex-



cept the upper diamond tube which is seven-eighths inch tubing. A twenty-six-inch front wheel is regularly supplied with a much straighter fork than is ordinarily seen, but a twenty-eight-inch front wheel will be supplied if desired. It is in the steering head of this model, however, that the most striking "newness" is evident, as shown by the accompanying illustration. It is of hexagonal tubing and most pleasing to the eye. The two side panels of the hexagon head, which are parallel with the frame tubes, are handsomely nickel plated and stand out in marked and striking contrast with the remainder of the head and frame which is finished in the well known Wolff-American translucent ruby or "Salamander" enamel over nickel. New pattern spindle, flanged, knock-out hubs, flanged sprockets, one-eighth-inch nickel steel chains, new and most ingenious eccentric chain adjustment, and a new type of self-oiling or magazine crank axle are other features of this clever little mount. With racing tires it scales complete nineteen pounds and four ounces.

POSITION OF MOTOR

Its Importance Sure to Increase—Stability, Gravity and Sideslip.

With the coming of the motor bicycle it is pretty evident that such matters as stability and gravity will receive considerable attention at the hands of the trade and public.

It is not beyond bounds to say that the most important point in connection with the motor bicycle is that of its stability. There are other and more pressing problems engrossing attention just now, but they do not present any insuperable obstacle. One by one they will be conquered and put out of the way. But there will still remain the problem of preventing sideslip, and in the light of to-day all that can be hoped for is an improvement in this respect.

A factor of considerable importance in the matter is the placing of the motor. The popular belief—and, indeed, the natural one—is that if the motor is placed low, thereby reducing the centre of gravity, the stability of the machine will be increased. But this is a contention that will not bear a very close examination.

It will readily be recalled that sideslip never became an issue in cycling until the safety made its appearance. The old high wheel, with its rider perched 'way up in the air, rarely gave trouble. Its tires seemed to bite into mud and grease and prevent slipping. This may be partly accounted for on the theory that the big wheel was rarely deflected from the perpendicular sufficiently to bring about a slip. But when it did go—and this happened occasionally—the consequences were, of course, more serious than with the safety, owing to the distance the rider fell.

With safeties much the same characteristics are observable. The old Giraffe type was remarkably free from sideslip, and a machine with a high crank hanger partakes of the same peculiarity. The popularity of low cranked machines is due to their carrying the rider close to the ground, where he is fairly safe, rather than to any improvement in stability arising from their construction.

These lessons have been pretty well digested by motor bicycle designers. They are not fond of placing the motor low, in spite of the appearance of stability which it gives in the average mind. Other things being equal, they prefer to place it above the crank hanger, thereby securing all the advantages that are to be had.

While something is accomplished in the desired direction by raising the centre of gravity, there is room for much more. The most likely appearing place for an improvement is the tire. It is the offending member on the comparatively rare occasions when the machine slips, and a non-slipping tire that is also a commercial article would prove a winner.

The Story of the Cinch.

Of the coaster-brakes that have "come apace" during the last twelvemonth there is no gainsaying that the Cinch has gained a position well to the fore, and, having gained it, is being pushed with that energy that assures its position.

When such thorough and conscientious manufacturers as the National Cycle Mfg. Co. indorse it by adopting it as their standard, its worth and repute are beyond doubting; this has just come about, and is a big plume in the Riggs-Spencer cap. The other makers who have recognized the claims of the Cinch are likewise impressive in numbers and in quality, and give it a standing that none can ignore.

The 1902 model, shown by the accompanying illustration, demonstrates that the Riggs-Spencer Co. have been up betimes. It is much simpler in construction and operation than previous models, and has been so improved as to eliminate any undesirable features. In fact, the manufacturers claim that there is no more probability of trouble with the Cinch coaster-brake than with an ordinary hub, as there is nothing about it to get out of order. The hub is small and of an eye pleasing design (patented), while the makers have "cinched" matters by making a front hub to match, which trims up a coaster-brake model to perfection.

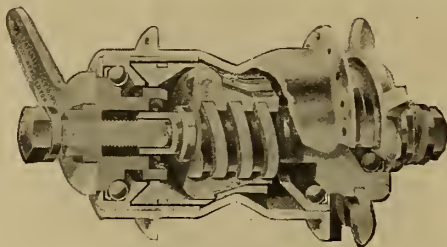
The Cinch is made in two models—the Chainless, for the Riggs-Spencer chainless mechanism, and the Standard Chain, which is furnished with sprockets from 6 tooth to 16, $\frac{1}{8}$ -inch, 3-16-inch and $\frac{1}{4}$ -inch, chain line $1\frac{1}{2}$ -inch, $1\frac{5}{8}$ -inch and $1\frac{3}{4}$ -inch, drilled 32, 36 and 40 holes. The sprockets are cycloidal milled.

The operation is both simple and effective. In driving the small bearing on the sprocket side and the large bearing on the left side of the hub are in action. The drive sleeve on which the sprocket is mounted is provided with a coarse screw thread, which is shown in the centre of the hub. On this is loosely mounted the actuating nut provided with a drive shoe loosely mounted on its right hand end. The rotation of the sprocket forward draws the actuating nut and drive shoe in contact with the hub shell, carrying it forward so long as the sprocket continues to rotate. This provides a positive drive in which there can be no slip. When the feet are stopped in riding, and the sprocket consequently ceases to rotate, the drive automatically releases, through no effort on the part of the rider, and no movement of the feet backward is required. The rotation of the hub shell itself is sufficient to throw off the drive contact, and the hub is perfectly free, providing the freest possible coaster. When coasting the two large bearings are in action, and as the cones and cups, which are made separate from the hub shell, are carefully ground after hardening, the best possible results are obtained, which has earned for the Cinch the catch phrase, "The one that coasts."

The braking mechanism is very interesting. The makers claim it to be ideal. It

brakes smoothly and regularly, but never with a sudden stop, nor does it ever stick when applied. A dismount may be made on the pedal, and as soon as the pressure is removed the wheel is free to turn in either direction. It is absolutely noiseless when the brake is applied under any conditions.

A slight movement of the pedal backward turns the sprocket correspondingly and carries the actuating nut to the left, its bevelled surface coming in contact with the corresponding bevelled surface of the brake shoes, which are thus forced against the bevelled back of the ball cup. The brake shoes are three in number, forming a braking ring held together by a wire spring. The contact above described provides a light brake, and a slightly greater pressure on the pedal expands this braking ring by means of the bevelled surfaces, until the brake shoes contact with the inner surface of the hub shell, which at this point is lined with brass, easily replaceable, to take the friction, and contributing to the noiselessness of the brake. Perfection in this respect is attained by the fact that the hub shell forms a reservoir which retains the lubricant, so that a single



application is sufficient for ordinary riding during a season.

Another feature of the brake that explains the great power that is obtained with little effort, even when the braking surfaces are running in oil, is the manner in which the hub brakes itself. The brake shoes forming the braking ring are loosely mounted on the brake block, which piece forms the left cone and is held from turning by the arm secured to the frame of the bicycle. This brake block is provided with three lugs which fit in corresponding depressions on the inside of the brake ring, the lugs thus preventing the braking ring from turning when performing its function. These lugs and depressions are of such shape that when the brake shoes are in action, the tendency being for them to turn with it, the frictional force thus created tends to draw the brake shoes up the inclines of the lugs, and thus greatly increases the braking force.

The teeth and plunger pin on the actuating nut and brake block are merely for the purpose of assisting to dog the actuating nut over into frictional contact with the brake shoes and to hold it in position when braking. This device is not an essential feature of the mechanism, but improves the braking action and makes it certain at all times. The combination of plunger and teeth is a great improvement over the earlier form, which consisted of teeth on both pieces. In the new construction, should the plunger land directly on the point of one of the teeth

it merely recedes into the brake block, thus permitting the brake to operate freely at all times. There is no strain on these teeth when braking.

Has An Air Jacket.

An unusual, although not altogether novel, method of cooling a motor was employed on a machine exhibited at one of the English shows. The cast-iron cylinder of the motor was incased by a brass jacket, which was provided with the usual radiating ribs. On the inside of the brass jacket two opposite spiral grooves are cut—that is, one groove is given a right-hand twist, the other a left. In the centre of the jacket, facing forward, is a bell-mouthed funnel, which communicates with the grooves. It is stated that these spiral grooves communicate with the air at the top front and rear base of the cylinder. It is further told that when the machine is in motion the air circulates round the cylinder from top to bottom by means of the spiral grooves, and issues by the rear lower opening mentioned.

Works by Centrifugal Force.

Some novel features are embodied in a speed indicator which an English inventor has brought out. The indicator is fixed inside the front wheel, revolving in it, one end being attached to the hub and the other to the rim. The centrifugal force as the speed increases gradually carries a small weight from the centre of the wheel, which action unrolls a tape off one on to another roll. Silver figures printed on this tape show the speed in miles per hour to the rider through an aperture in the case between the two rolls. It is said that the rapid velocity of the wheel does not affect the clearness of the figures, and the rider can see them easily at any speed. A spring constantly holds the weight in check, so that it always assumes the same distance from the centre at the same speed.

As to Hill Climbing.

It is said that the shortest way up a hill is the easiest way. That depends. If the hill is well within the rider's power the contention is true. But if he labors on the hill he zigzags, and deems his labor made easier by so doing. Similarly, if he is hard pushed on a hill, and the latter curves, he is almost certain to take the outside of the curve; while if he has a little "up his sleeve" he will take the shortest cut across the curve. Perhaps he does not lessen his task by adopting the former course, but he thinks he does, and that is pretty nearly the same thing.

Skates as a Sideline.

As a winter sideline skates have always held their own, and doubtless will continue to do so—a fact that makes the Fisher tube skates, manufactured by the "good old" Crosby Co., Buffalo, of interest to the cycle trade. Possessing, among other things, the merit of novelty and differing from others, the Fisher has claims that cannot but appeal to the merchant who appreciates and knows how to make the most of such virtues.

PECULIARITIES OF EVOLUTION

The Curious Conditions That Have Attended Each Change of the Bicycle-Type.

In the evolution of the bicycle—which, by the way, is still in progress—one curious feature marked each of the principal stages of its development.

Reference is made to the fact that while the successive changes in construction were never for any considerable time in doubt, the exact manner in which they would be worked out was shrouded in mystery. Designers and makers had to work along many and widely differing lines. Could any one at the beginning have penetrated the cloud that obscured the view, instant success and vast fortune would have awaited him. But the entire cycling world shared in the feeling of uncertainty that prevailed. It might be resolved in one way, but was quite as likely to emerge in an entirely different one.

Even when it was clearly recognized that the high bicycle was doomed, its successor was shrouded in the mists of time. In the light of to-day it seems almost inexplicable that trade and public did not put its finger on the safety and say, "This is it." But it was only after the Kangaroo and other now almost forgotten types had been worsted in fair battle that the handwriting on the wall was perceived.

It was the same when the tire question assumed overshadowing proportions. The solid tire had been tried and found wanting, and it was plainly written that it must go. But what would succeed it? Would it be the cushion or the pneumatic? And this answered, the next question was, which "type" When the scales inclined to the air tire it was years before the type was proclaimed by popular favor. Even now, although it long since settled down to two designs, neither the single tube nor the double tube can be proclaimed undisputed victor.

When the lesser, but still highly important, changes that have written their history on the cycling page—the "feather-weight," the strong and light bicycle, the chainless, the cushion or spring frame, the coaster-brake—made their appearance, one after another, the same uncertainty prevailed. Confusion reigned. Multiplicity of pattern prevailed. It was only after experience with the different types was had that order was evolved out of the chaos.

It is not surprising, therefore, that history should repeat itself in the case of the motor bicycle, or the bicycle with motor attached, whichever may turn out to be the more correct way of putting it.

That this is to be the next great development of the bicycle is becoming pretty evident. In the not very far distant future bicycles will be divided into two classes—one with and one without motors. Which will be the more numerous it is impossible to say. Speculation would be futile, and the time devoted to the solution of the mystery time

thrown away. Obvious considerations determine the retention of a vast number of machines as pedal-driven bicycles solely; others, almost equally cogent, render it fairly certain that another, and even more undetermined, number will be used in connection with motors.

Each successive improvement of the bicycle has but whetted the appetite of riders for more. The feature that may be hailed as completing the task of making the perfect bicycle lasts only for a brief season. The novelty wears off sooner or later, and another step must be taken. The bicycle of to-day has become an oft told tale. Something new—some striking, even revolutionary, departure in design or construction—is demanded by a very large number of cyclists, past and present.

The motor bicycle fills this want almost

plain that the linking of a very heavy motor and the bicycle will not be successful. At a weight of 100 pounds and upward the bicycle is not a commercial proposition, in the sense that it can obtain any large sale, and every effort is being devoted to the lightening of the combination of motor and bicycle.

No important attribute of the motor can be sacrificed in so doing, of course. It must do its work, and do it well, else it will stand confessed a failure, no matter how pleasing its appearance or light its weight.

But everything that can be done in the direction of simplifying the motor, improving its looks and assimilating it with the bicycle, will help its sale and make it a more pronounced success. The connection between the bicycle and the motor is an intimate one, and the public will not long tolerate a machine in which the motor is "stuck on" with small attempt made to establish a connection between the two and to harmonize their points of difference.

In short, the first consideration in a motor bicycle is that the motor shall work; the second is that the blending of the motor and the cycle shall be as complete as it is possible to make it.

With Use Comes Ease of Mind.

When a rider first begins to use a coaster-brake machine he is apt to be nervous about the reliability of the brake. The thought of what would happen if he should have urgent need of the brake, and it would not work at the crucial moment, fills his mind.

As a result, he makes frequent trial of the brake, especially upon approaching a steep hill, to satisfy himself that it is in good order. He may keep this up for weeks or even months, but in the course of time he becomes reassured and forgets all about it.

If he should ever find the brake wanting, if there should ever be a failure to "bite" when the back-peddalling pressure is applied, he would become more nervous than ever; and a few such occurrences from time to time would effectually prevent his giving way to a feeling of security. But the fact is that such a thing rarely occurs. The brake does act, and after a rider has learned this by making the test on a few hundred different occasions he becomes quite reassured.

Indeed, with many coaster-brakes the rider has more braking power than he needs or quickly learns how to handle. His greatest difficulty is to learn to graduate his pressure, and thus avoid stopping too suddenly.

He must have some regard for his tires as well as for the frame of the machine, both of which would be endangered by bringing the cycle to an abrupt stop by locking the wheel and skidding the tire.

Given by Hartford.

The Hartford Rubber Works Co. is distributing a 4x2½ inch vest pocket memorandum book. It has an imitation leather cover, and in appearance and quality is of the sort to be expected of such a concern.



NEW YORK BRANCH: 214-216 WEST 47TH STREET

ideally. But the question for the future to settle is whether the motor or the bicycle shall be subordinated. Shall the bicycle be a bicycle still, having a motor attachment that can be "switched on" as occasion requires—as when climbing a hill or "bucking" a head wind—or shall the art of pedalling fall into "innocuous desuetude," the bicycle become a form of carriage and the cyclist merely a passenger?

There is much to be said on both sides.

The bicycle won its principal triumphs because it was light, simple and noiseless. By tacking on to it a motor every one of these advantages is foregone.

It is very evident, therefore, that there will always be a place for the pedal driven bicycle, and no matter how much the motor is improved, brought down in weight, cheapened in cost, it cannot invade this field.

It remains to be seen, then, whether in the motor bicycle of the future the attempt will be made to obtain the advantages of the motor without entirely relinquishing those of the present bicycle.

All signs point to the belief that there will be such an attempt made. It is already

SINGLE TUBE TIRES.

The tire purchasing public is hereby notified that the United States Circuit Court of Appeals which is the Court of Last Resort has decided that the

Tillinghast Tire Patent is Valid.

OUR ACTIVE LICENSEES ARE:

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Vehicles made by other than licensees are

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WILL SURELY
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of the average mortal; no dic-
tionary of mechanical
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understand it.

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AT 123-125 TRIBUNE BUILDING,
NEW YORK CITY.

\$2.00 PER YEAR.
10 CENTS PER COPY.

SAMPLE COPY ON APPLICATION.

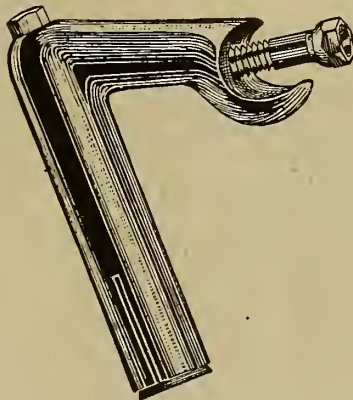
California Contributes Bar.

California, which has figured little in cycl-
ing invention and manufacture, has just
come to the fore with the reversible exten-
sion handlebar, shown by the accompanying
illustrations. It is the origination of J. W.
Leavitt, of the well known jobbing firm of

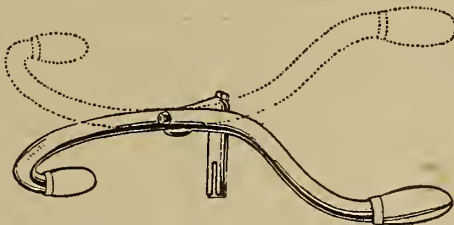


Leavitt & Bill, San Francisco, and is being
marketed by the California Handle Bar Co.,
of 307 Larkin street, that city.

The feature of the bar is that it may be
changed from the raised to the drop position



or reverse without removing a grip. The
center of the bar top is two and three-
fourths inches long, turned from bar steel;
to this the tubing of the bar is brazed. This
method of construction makes a bar top



with a very strong, reinforced center, mak-
ing it practically unbreakable.

The forward extension stem is a drop forg-
ing milled to fit the bar center closely for
half of its circumference, so that the bar top
is easily held rigidly to the stem by the
screw through the bar center.

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EASIEST RUNNING. CONSEQUENTLY BEST.



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PRICE IS RIGHT.



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New Year Sentiment:

"Ring out the false; Ring in the true,"

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IN THAT EVENT

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Representing
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70 YEARS

in bell manufacture, they
are as true as skill and
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IF YOU DESIRE
The True in Bicycle Bells
we certainly should
hear from you.

BEVIN BROS. MFG. CO.,
EASTHAMPTON, CONN.
Business founded 1832.

When Roads are Frozen.

If a rider is not too solicitous about his tires he need not be afraid of frozen roads, even if there is snow on them, provided the latter is packed down by travel. Loose or melting snow is, of course, too much for even the keenest winter rider to make much headway against, and it is the part of wisdom to recognize this and give up the attempt to ride through it. But on ice the pneumatic tire takes a good hold, and the rider has no trouble in steering or maintain-

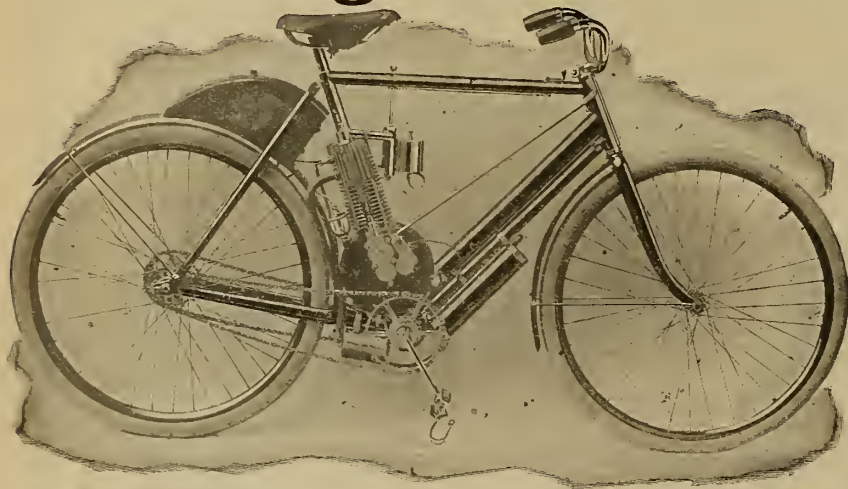
ing his equilibrium. Over well packed snow, too, he will be able to glide without much difficulty; of course, the machine will run a little harder than on a snow free road, but the difference is not sufficiently great to spoil the pleasure.

Cyclists who do much winter riding know just how to dress, and consequently they rarely suffer from the cold. The most important thing is to keep the hands and feet well protected. If that is done there will be little trouble about the remainder of the body.

One Source of Tire Trouble.

There is no quicker way of ruining a tire than to let the rear wheel get out of true or be put in the frame slightly askew. The small tires now used give a little more clearance in the forks than formerly, but even yet with some machines there is none to spare, and if the wheel does not run in the centre there is danger of the tire rubbing. It does not take very much of this to expose the fabric, and then the wet gets to it and soon rots it.

"The Big Chief of the Hendee Tribe"



That about describes the position
of the

Indian Motor Bicycle

as it is but the leader of our line. We have other Indians—pedal-propelled Indians at \$25.00, \$30.00 and \$35.00 and like the "Big Chief," they are of the kind that make easy the capture of customers.

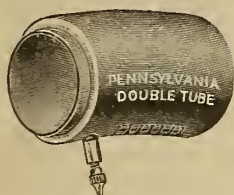
If you desire to

Make the Scalp Locks Stand

on the heads of your rivals, the Indian Agency will help you do it.

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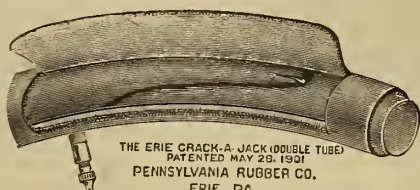
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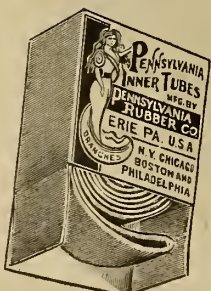


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until you
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our entire
line.

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ARE THE

Wolff-American and Regal

We are closing contracts rapidly. How
about your section? Better write us
for catalogue and proposition.

Immediate delivery.

STEARNS BICYCLE AGENCY,

General Distributors,
SYRACUSE, N. Y., U. S. A.

The Week's Patents.

688,838. Motor Vehicle. Farnum F. Dorsey, Winchester, Mass. Filed March 19, 1901. Serial No. 51,838. (No model.)

Claim.—1. In a motor vehicle, the combination of the vehicle; a motor provided with trunnions journaled in the upper ends of supporting arms, the lower ends of said arms being secured to the axle of one of the wheels of said vehicle; said axle; said supporting arms; a friction wheel on the shaft of said motor; a wheel of said vehicle; and mechanism for rotating said motor on its trunnions to throw said motor friction wheel into and out of contact with said motor vehicle wheel.

688,979. Bicycle Driving Mechanism. Charles P. Wold, Brooklyn, N. Y. Filed May 9, 1901. Serial No. 59,490. (No model.)

Claim.—1. In a vehicle, the combination with a main driving gear and connections for transmitting motion from the said driving gear to the wheels of the vehicle, of a steering post tube, a fork attached thereto, and a stationary shaft mounted in said fork, a secondary driving gear mounted on said shaft to rotate, means for transmitting motion from said secondary driving gear to the main driving gear, independently acting, revoluble, tubular shafts incasing the stationary shaft, on each side of the secondary gear, clutching disks mounted upon said tubular shafts, contiguous to the opposite faces of the secondary gear, means for moving said disks longitudinally upon the tubular shafts and into engagement with the faces of the secondary gear, upon the rocking of the said tubular shafts, and vertically movable handle bars attached to said shafts and adapted to rock the same and thereby to continuously rotate the secondary driving gear, substantially as described.

689,050. Propelling Mechanism. Stephen D. Hobson, Stafford, Kan. Filed July 25, 1901. (No model.)

Claim.—1. The combination with a driving shaft having an eccentric mounted thereon, of a driven shaft, an eccentric on said driven shaft, straps arranged on said eccentric, upper and lower connecting rods, connected intermediate of their length and secured rigidly to said eccentric strap, a supporting lever pivoted to a fixed point, and a pivotal connection between the lower

end of said lever and one of said connecting rods to permit free swinging and rocking movement of said connecting rods.

689,121. Tire Repairing Tool. Benjamin J. Piquet, Woodbury, N. Y. Filed May 24, 1901. Serial No. 61,722. (No model.)

Claim.—1. A tire repairing tool, comprising a frame, and a pair of jaws, one of which is arranged to slide on the frame, the other being mounted to swing on the frame to and from the sliding jaw.

689,202. Bicycle Alarm Whistle. Louis L. La Mere, Mosinee, Wis. Filed April 13, 1901. Serial No. 55,695. (No model.)

Claim.—1. In a bicycle alarm, the combination of a casing, a shaft journaled therein, a fan loosely held upon the said shaft and having its hub provided with a pinion that is adapted for engagement by a gear wheel carried on a second shaft journaled on the outside of the casing, a pinion formed integral with the gear wheel and adapted for engagement with a gear wheel fixedly held upon the fan shaft, and means carried by the said fan shaft for imparting motion to the fan through the medium of the gear wheels and pinions, substantially as shown and described.

689,217. Bicycle Attachment. Verne T. Palmer, Tuscarora, N. Y. Filed Feb. 9, 1901. Serial No. 46,710. (No model.)

Claim.—1. The combination of a main handle bar stem formed with a forwardly extending lug, a U-shaped inverted clamp, a clamping screw whereby the inverted clamp is connected with the forwardly extending lug, an auxiliary stem adjustable longitudinally of the machine in the inverted clamp over the end of the main handle bar stem, parallel with the reach of the machine and having a clamping strip at its forward end, and a handle bar adjustably secured to the auxiliary stem by means of the clamping strip.

689,303. Bicycle Propulsion. Sam N. Hall, Hollygrove, Ark., assignor of one-half to Rudolph Abramson, Hollygrove, Ark. Filed Aug. 20, 1901. Serial No. 72,688. (No model.)

Claim.—1. A propulsion mechanism for bicycles comprising a train of oppositely operable gears associated with the axle of the front wheel, oppositely operable gears carried by the handle bars, and connections

between the wheel gearing and handle bar gearing, whereby upon the handle bars being moved simultaneously through upward and downward arcs, at right angles to the front wheel, the latter will be positively driven on both movements of the handle bars.

Ballast in Business.

Many good qualities go to the insuring of a genuine success; a strong, hopeful heart, industry, patience, perseverance, a largeness of aim and view, tenacity of purpose, power to control the tongue, swift precision of mental sight, a clear view into the future, reticence concerning plans, the submission of the body to the will, and, as a prime factor, that peculiar virtue which, for want of a specific name, may be called "ballast." Ballast is really many virtues, in nice proportion. It is to know ourselves, our position and the power we possess for any task to be done. It is the making for a desired point, with the steadiness of a locomotive, and as directly as a crow flies. If we accuse a person of wanting "ballast," we think of him blown about by every wind of circumstances, and of wavering among a variety of ends. This is the great commercial sin. No one in the business world is held more cheaply than the man without ballast. He is like a ship, leaving port with colors flying, and not a pound of ballast in her hold.—Ex.

To Do One's Best Work.

"To do your best work with your hands you must have your heart not to exceed an arm's length from your hand.

"In my youth I often hoed corn with my hand, while my heart was two and a half miles away, fishing. I never did a record-breaking day's work under those circumstances," observes a philosopher.

"You never can accomplish much with your head if your heart is not pattering pretty close to your head.

"Men have gone through the world working on lines they did not like, but they never cut a swath wide enough for an average goose trail. You never read about these men in the historical libraries unless you happen to pick up the census reports. They figure in the totals of population."

The Only Men in the Six Days' Race

who did not experience saddle soreness, or who did not have to "tinker" with their saddles,

WERE THE MEN WHO USED OAK SADDLES.

Maya and Wilson used OAKS throughout the contest and say they never before had such saddle satisfaction. The saddles did not stretch or sag a particle, and while other riders had to tie the jockeys or flaps together or held them down by other means,

THE OAK HELD ITS SHAPE.

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Tell.



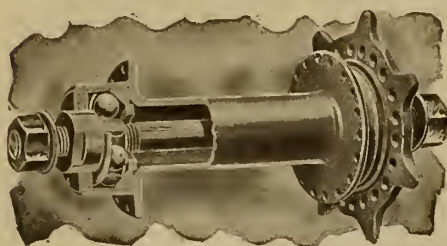
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THE KING OF ALL SADDLES

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CHAMPION HUBS

Write for Complete Description and Prices.



LIGHT WEIGHT RACING MODEL.)

ALSO REGULAR ROAD HUBS.

Worthy of Their Name.

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Cheap but Good and Well Worth Their Price.

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MORSE TWIN ROLLER CHAIN



NOISELESS IN MUD, WATER OR
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The only chain having Frictionless
Rocker Joints. Insist on having the
Morse Twin Roller. Fits regular
sprockets.

Send for Catalogue and
Trade Price to

Morse Chain Co., Trumansburg, N. Y.

Where Motor Bicycles are Scoring.

The motor bicycle is "catching on" in unexpected places, in the gold fields of Australia, for instance. A correspondent at Perth writes that there are a number of them in use, and more coming. The towns are far apart and water is scarce, making the speed and economy of the motor bicycle features that are keenly appreciated.

WANTS AND FOR SALE.

15 cents per line of seven words, cash with order.

WANTED—Everyone interested in motor bicycles to purchase "Motocycles and How to Manage Them." Contains 126 pages bristling with information. \$1.00 per copy. For sale by The Goodman Co., 154 Nassau St., New York City.

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ALWAYS SATISFY.

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NEVERLEAK

STOPS LARGE PUNCTURES.

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HAND AND FOOT PUMPS,

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MADE of BRASS.

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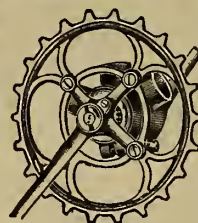
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Single,
Tandem,
Triplet,
Quad and
Motor Cycles.

Lightest, Nearest Dust Proof, and
Easiest Running Hanger in the World.
Park City Mfg. Co., inc., Chicago

Sterling Continuous Ringing Chime.

NON-WINDING.

SIMPLE, COMPACT,
DURABLE.

EVERY BELL GUARANTEED.

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NON-REVOLVING.

Clear, Loud, Penetrating
Alarm.

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45 Pearl St., BOSTON.

The Bicycling World

AND MOTOCYCLE REVIEW.

In which is incorporated "The Wheel and Cycling Trade Review" and the "American Cyclist."

Volume XLIV.

New York, U. S. A., Thursday, January 2, 1902.

No. 14

COL. COCKLEY DEAD

**Founder of America's Steel Tube Industry
Passes Away at Scene of his Triumph.**

Colonel D. L. Cockley, long identified with the bicycle trade as the organizer of the Shelby Steel Tube Co., died at his home in Shelby, Ohio, on Friday last. His passing recalls the leading part he played in the development of the cycle trade—a part unfamiliar to the newer comers in the industry.

Previous to 1891 all seamless tubing used in cycle construction was imported, and the secrets of its manufacture were supposed to be locked in foreign breasts. It was only through constant effort and the investment of thousands of dollars that Colonel Cockley succeeded in getting others to share his faith in American ability and in placing on the market American made tubing fully equal and even superior to the imported article.

In 1893 Mr. Cockley disposed of a large amount of the stock in the Shelby Co. to Colonel Albert A. Pope; later W. E. Miller, of Elyria, Ohio, also purchased an interest in the company, and started the enlargement of the plant, which is to-day the largest producer of steel tubing in the world. One year it paid a dividend of 105 per cent. A few years later Colonel Cockley disposed of his entire holdings in the company to the Miller interests.

For the last few years Colonel Cockley had practically retired from business, but recently he had purchased an interest in the Beardsley & Hubbs Mfg. Co., Mansfield, Ohio, manufacturers of automobiles, and removed the plant to Shelby and became president of the company.

Colonel Cockley was prominent in Ohio politics, and had served on the staff of Governor Bushnell.

Will Add \$500,000.

Hibbard, Spencer, Bartlett & Co., Chicago's big jobbers, have decided to increase their capital stock from \$500,000, its present amount, to \$1,000,000. The increase is to meet the expense of extensions and improvements which they are to make in building new warehouses.

Big Profit in Bowden Brake.

About the best evidence that can be adduced to show the extent of the demand for brakes among British riders is the phenomenal success of the Bowden Brake Co. This concern started out to market a rim brake operated by a twisted wire. It has been extending its operations, and now it applies its wire to the operation of other things besides brakes—motor valves, etc.—and is about to manufacture a free wheel clutch.

The present company was formed last April, with a capital of \$200,000. Its report shows that it has earned since that time \$65,000, in addition to \$22,500 earned prior to April. Out of these very substantial profits it has paid a dividend of 20 per cent, a bonus of 62 cents on every share of stock, placed \$20,000 to the reserve fund and carried forward \$6,000.

It was stated at the meeting that there was every prospect of a largely increased business for 1902.

Cycle Age in Trouble.

Under date of December 30th The Cycle Age Co., Chicago, has announced its discontinuance, adding that "such steps will be taken as is necessary to wind up its affairs." The further statement is made that "an agreement has been entered into with its former editor to carry out its contracts with subscribers and advertisers."

Pennsylvanias Abroad.

As the result of a visit to this country, R. M. Howison, former manager of Single Tube Tires, Ltd., London, has established himself in that city on his own account. He has taken on the sole agency for the Pennsylvania Rubber Co.'s goods.

End of a "Never-Was."

It is reported that the Stanton Mfg. Co., of Waltham, Mass., has made an assignment. The concern had a two-speed gear which was to work wonders, but nothing came of it. Recently, it embarked on the automobile sea, but never got far from shore.

Not yet Decided.

Brown & Wales, Boston, state that the report that they would discontinue their cycle jobbing department was premature; they write that "up to the present time we have not decided to do so."

KEHEW SPEAKS UP

**"All Lies," Says the Boston Jobber About
Reports Charging him with Duplicity.**

In September last, when George F. Kehew disposed of the United Supply Co., Boston, to the Equitable Distributing Co.—the New England retail pool—surprise was general and tongues wagged.

In October when Kehew re-established the United Supply Co., it proved another surprise and renewed the tongue wagging.

Between the surprises and since Kehew's position has been an uncomfortable one. He has been an object of suspicion on all sides and has been handled both with and without gloves, as occasion required. From somewhere the idea got abroad that the re-established United Supply Co. was but a spy, an intermediary, or a stalking horse for the retail pool; the idea spread rapidly and found general belief.

Kehew has finally broken silence and in a lengthy letter to the Bicycling World brands all such statements and allegations as "deliberate lies which have originated from not more than two sources." He "absolutely denies any connection, past, present or future, with the Equitable Distributing Co." and as he "has never violated a confidence, he considers that these statements are worthy of belief."

He adds that since October 1st, the United Supply Co. have not purchased \$25 worth of goods, all of which they themselves used, and that after January 1st they will locate at No. 190 High street, Boston, and do business as they did it before the unpleasant rumors placed him in a compromising position.

England's Healthy Export Trade.

While the United States enjoyed three months of increased cycle exports during 1901, Great Britain's gains have been constant since May last, November, usually an "off" month, having proved one of the best months of the year. The total shipments during the month attained a value of £55,662, as against £45,657 during November, 1900. Australia and New Zealand are largely responsible for the increase.

CONVERTING A SCEPTIC

Typical Example of the Effects of Personal Experience With Motor Bicycles.

Bearing on the suggestion advanced in last week's *Bicycling World* pointing out how dealers can "manufacture customers" during the winter by jacking up a motor bicycle and instructing their townspeople how to operate it, M. B. Marsh, of the Motor Cycle Mfg. Co., Brockton, Mass., relates a typical instance of the great influence of such instruction and personal experience, even on the most casual occasions.

"One day last September a gentleman who was visiting friends in Brockton chanced to pass our factory, and, curious to know what we were making so much noise about, stepped inside.

"His eyes wandered for a while on several objects, until at last they rested on our motor bicycle, whereupon he exclaimed, 'What the devil is that?' at the same time stooping down to get a more perfect view. When he was told what it was he said: 'Humph! What is it good for?' When we pointed out that it did the work that legs were supposed to do, giving the rider perpetual rest while riding, he said, 'That sounds very well, but the damned thing looks too complicated,' and in the same breath added, 'How does it work?' We repeated the details regarding operating it. 'Well,' said he, 'that may be all right for an expert, but an ordinary man never could ride a machine like that.'

"We asked him if he rode a bicycle. 'I used to,' he replied, 'but I have not seen mine for a year. I guess it is down in the cellar.' When we inquired the reason he exclaimed: 'I worked my passage on a wheel long enough. I've given it up now.' Asked if he wouldn't like a ride on the motor bicycle, he rejoined quickly, 'You couldn't get me on that thing for a thousand dollars, but I should like to see it run.' Accordingly we took one out, and after riding it up and down the street two or three times we suggested that he get on and pedal the machine with the belt off, just to see how it steered.

"He got on, and I rode alongside on an ordinary bicycle, instructing him in the use of the different levers. He finally admitted that it steered as easily as his old wheel.

"After a lot of coaxing he consented to try a ride if the speed lever was set at its slow speed. We mounted him again, and he started with the power on; there was a very nervous look on his face, which eased a little when he found how easy it was to shut off the power with the switch grip.

"In a short time we came to a hill, and I, having a common bicycle, put my head down to keep up. Very soon a smile played about his face, and it could be seen that he was converted, although as yet he had not made the confession. At length we turned around, and he started back with the air of an expert. We had proceeded only a little way when the explosions of the motor stopped

and the machine began to slow down. Immediately a puzzled look came over his face, which increased very much as he unconsciously turned the switch grip a little and the motor started again.

"Arriving at the factory, he asked the cause of the motor stopping. We told him, of course; he became more enthusiastic than ever, asking us where these machines were sold, as he had not seen them at any of the cycle stores in his home town. Indeed, he went so far as to say that he thought the present dulness of the cycle industry had so entranced the dealers that it would be necessary to force them to ride on a motor bicycle before they would come completely out of it. He added that he knew hundreds of men who would buy if the machine he had just ridden were properly shown up to them. It is needless to say that we received his order, and that he wished us success a thousand times in the good work that we had started."

"Knocks" his own Business.

Some of the hardest knocks the bicycle gets come from the hands of people who depend on it for their bread and butter. Ordinarily they are like other men, but as soon as bicycles are mentioned they begin to drip indigo from every pore and to paint the business in the most sombre colors.

One of these "jackdaws" is thus quoted by the *Indianapolis Journal*:

"The bicycle has seen its best days and is rapidly petering out," said the representative of one of the largest bicycle and automobile establishments, at the Hotel English.

"As an instance of how the business is going to pieces, I can say that our firm made 48,000 wheels year before last, as against 21,000 last year. I predict that within the next two or three years there will be few bicycles seen on the streets. The bicycle is a drug on the market now.

"Bicycling started out like the roller skating craze, and it will have the same end. When our bicycles were selling at \$125, retail, we could hardly get wheels out fast enough, although we had 1,500 men at work. Now one can buy the same wheel for \$50, and a third of the number of men formerly employed to enable us to fill the orders can do the work now.

Thinks Worst is Over.

"There is going to be more and better business done during the coming season than for a number of years past," said "Senator" W. J. Morgan, so well known during his long connection with the trade, a connection which was recently severed.

"There is evidence of an improvement to be seen on all sides. I find it everywhere I go. The dealers are buying goods. Even if it is only in small lots, still they are buying. They talk more hopefully than they have done for some time, and tell me that they have something tangible to base their hopes on.

"As it looks to me, the worst is over. This belief is shared by many people with whom I have talked, outside as well as in the trade. I am becoming infected with the feeling myself, and feel rather sorry that, being out of it altogether, I cannot share in the coming revival."

WHEN TEUTONS TOOT

How an Anti-American's Piracy of an American Idea Agitated German Trade.

An amusing war is being fought now between German cycle makers—a war which will live on in cycle trade history as the "German ball retainer war."

Every one knows the proneness of German cycle manufacturers to copy all American novelties they can lay their hands upon, at the same time forcing the trade papers to publish vile attacks on all foreign goods, American especially. Some of these manufacturers sometimes go too far in their noble policy of abuse, and thus arouse the green-eyed monster that lurks in the Teutonic chests of their rivals.

An instance of the sort brought about the "war" in question. It appears that the Brennabor-Fahrradwerke, of Brandenburg, recently bought a few thousand American ball retainers, and on the strength of the deal at once proceeded to advertise the device as their own glorious invention. The advertisements were expressed in such a way as to make people believe that a new era in cycle construction was opened by the "new Brennabor bearings and ball retainers." This aroused the wrath of another big bicycle maker, Seidel & Naumann, Ltd., of Dresden, who published a vigorous protest against this misrepresentation. The latter firm pointed out that the device was an American invention 3½ years old, adding that "it would be a disgrace for the German bicycle trade if German makers represented old American inventions as their own and as something quite sensational and brand new."

The factory thus attacked did not fail to publish a counterblast, wherein feeble efforts were made to justify their action, whereupon the other party answered in a second half-page advertisement, giving the Brennabor-Fahrradwerke "the lie i' the throat."

This amusing newspaper war went on for some time, to the great pleasure of readers and to the gratification of the poor publishers, who are now in sore need of advertisements, foreign goods being boycotted by order of German makers, without proper compensation being given for the loss. It is to be hoped, at any rate, that this affair will have a beneficial result in restraining German bicycle dealers from parading too brazenly their appropriated American ideas.

Wanted for Belts.

If belts are to continue to be used for driving motor bicycles there has got to be devised some simple and mechanical method of fastening the ends of the belt together. The chain, which rarely requires to be taken off, has a bolt and nut fastening. A wrench and a screwdriver are all that is required to manipulate it. But the belt, which is almost continually in need of shortening, has no such ready way of joining. An ingenious—and economical—Englishman has hit on a scheme of using old side links for this purpose. A countersunk screw serves to hold them in place. But better ways than this can be thought of, and should be without much delay.

ENGLAND'S HEAVY PURCHASES

So Large as to Save November's Export Record From a bad Fall.

Although the November purchases of England, France and Germany were substantially larger than those of the corresponding month of the previous year, the patronage of the rest of the world fell away so greatly that November of 1901 narrowly escaped being a disastrous month in the matter of cycle exports.

England's big increase was easily the feature of the month, and brings the total for the eleven months well over the record for the corresponding period of 1900. Despite the fact, the English cycling press is in ecstasies over what they term "the retreat of the American invaders."

Excepting the three countries named, only Central America, China and Argentina were in the column of gains, and the gains were inconsequential.

The record in detail follows:

Exported to—	November—		—11 months ending November—		
	1900. Values.	1901. Values.	1899. Values.	1900. Values.	1901. Values.
United Kingdom.....	\$15,292	\$41,517	\$651,690	\$424,513	\$482,748
France	2,424	13,454	409,310	178,631	192,746
Germany	10,289	16,498	776,487	332,927	202,984
Other Europe.....	31,883	26,673	870,435	631,697	496,075
British North America.....	11,459	4,607	524,822	363,982	287,097
Central American States and British Honduras	375	641	4,642	2,439	5,554
Mexico	1,779	1,601	39,822	14,028	20,616
Santo Domingo.....	80	20	323	312	832
Cuba	1,752	1,016	91,302	66,885	12,793
Porto Rico.....			2,648	1,461	
Other West Indies and Bermuda.....	7,626	3,850	59,756	46,492	46,518
Argentina	1,584	1,938	264,334	71,815	7,912
Brazil	1,478	579	31,313	18,272	5,970
Colombia	34	30	7,752	3,504	712
Other South America.....	2,996	2,201	60,717	38,420	27,407
Chinese Empire.....	463	2,814	21,465	20,108	53,377
British East Indies.....	6,743	3,996	119,486	57,443	50,980
Hongkong	1,124	430	9,258	8,820	3,685
Japan	5,266	4,920	117,372	226,035	201,615
British Australasia.....	24,390	12,077	230,079	202,163	178,194
Hawaii			43,341	32,473	
Philippine Islands.....	10,607	1,152	1,281	65,394	29,352
Other Asia and Oceania.....	3,751	2,133	46,551	26,042	22,038
Africa	13,131	5,405	148,665	66,427	88,791
Other countries.....			274	417	282
Totals	\$154,529	\$147,552	\$4,533,125	\$2,900,700	\$2,418,878

Dealer had to Pay Damage.

Another British guarantee case has come up, and this time it is the dealer who has been mulcted in damages. A Belfast dealer named Marshall sold a machine and guaranteed it to be "as per catalogue"—that is, of excellent material and workmanship. It broke down, and the owner sued for \$75 damages. The judge held that the rider's remedy lay against the dealer, and awarded damages in the sum of \$25. To make himself whole Marshall must proceed against his principals.

Force of Habit.

Man (entering store)—Say, is the boss in?

Absent-minded Clerk—No, but we have something just as good.—(Ex.)

Mason's Effective Bob-sled Simile.

While most people in the trade imagine that practically every one who owns a bicycle knows all about coaster brakes, it is gradually being made plain that this is far from being the case.

"One of my old customers, a downtown business man whom I had not seen for some time, dropped in here the other day," said Elliott Mason, the veteran manager of the Columbia branch on Warren street, in speaking of the subject, "and in the course of our conversation I ventured to remark that he must have had a coaster brake applied to his bicycle by this time. He not only replied that he had done nothing of the sort, but wanted to know what a coaster brake was and what it was good for. I knew him pretty well, so I twitted him about his being behind the times and got him really interested.

"You coasted down hill on a bob sled when you were a youngster, didn't you?" I asked of him.

"Yes, and enjoyed it, too," he replied.

"Well a bicycle with a coaster brake per-

mits all ages to coast down hill in just that way, and in summer as well as winter, and affords the same enjoyment and exhilaration that the bob sled gave you when you were a boy."

Of course, Mason got an order. Aside from this, the bob sled simile is so apt and suggests so much that it is worth "passing down the line" for the benefit of cycle salesmen generally.

An Opening in Australia.

The Austrian Association of Cycle Traders are said to be arranging to run a long distance race from Vienna to Trieste and back. The costs of the event are estimated at 20,000 kronen, which are covered by subscriptions from manufacturers and friends. The long distance quality of all kinds of machines will be tested, and prizes will be awarded to the best manufacturers and riders.

COASTER-BRAKE COMPETITION

How It is Helping Trade Generally — Curious Conditions That Prevail.

Evidence that the tide has turned and that 1902 will prove, comparatively speaking, a prosperous year continues to accumulate. Much of it is being brought to light by and is traceable to the coaster brake manufacturers, who are throwing a deal of vim and "ginger" into their rivalry, the enlivening effect of which is proving contagious and is being felt throughout the trade.

The Barwest Coaster Brake Company, for instance, have received reports from all their travelers which confirm the reports of others and have enthused Manager Weston to the boiling point. He is convinced that it will prove an unprecedented "coaster brake year," his information covering practically the whole country, north south, east and west.

New York and Pennsylvania are holding their positions as banner States, with New England next in line. The Middle West, according to Weston, has been more backward even than is generally supposed. Dealers in that territory have been inconceivably slow to grasp the opportunities, and money afforded by the 'coaster brake. States like Iowa and Illinois and even Indiana, have been unaccountably lukewarm. Ohio and Michigan, while not so bad, have not been as fertile as their standings and populations should make them. Large cities and hilly ones, like Cincinnati, for instance, have displayed lackadaisical interest. But all show symptoms of an awakening, Michigan particularly, and the awakening argues well for the year. The slowness of the West in this regard shows, however, how great and how rich is the field for coaster brakes, and how the limit of demand is not even visible on the horizon.

According to Mr. Weston, the South also is looming up. While the demand has been good, it has been scattered. In one city or section the demand has been brisk; in others, Savannah, for example, it has been of small consequence.

The foreign demand continues excellent. The Barwest people have just closed a big deal in France, and Mr. Weston promises a development in England that will cause some eye opening.

Before he got through, Weston worked around to the subject of brake arms.

"Some people do not understand the subject," he said. "I agree thoroughly that hinged arms are great improvements for coaster brakes that need them; it is necessary where there is any 'play,' but in a device like the Barwest, in which the brake is applied radially between the flanges, it would serve no purpose; the sprockets are always in line; they do not change their positions, and so there can be no 'play' of any kind."

NATIONAL BICYCLES

Boulder, Colo.,

November 4, 1901.

We are much pleased with
Nationals. So are the riders.

THE CHAINLESS IS PERFECTION.

We are going to make them the leaders in this city for 1902.

Yours truly,

NEIHEISEL BROS.

"The good name that
endures forever is count-
ing for more than it ever
counted before."

—*Bicycling World*, Dec. 12, 1901.

NATIONAL
CYCLE MFG. CO.
BAY CITY MICH.

Equal them—If you can.

Investigate the merits of other tires—find out what they are made
of, how they are made and how much they cost. Then look up the

FISK TIRE.

It will stand investigation. It will stand comparison. It will stand
use. Why? Because it is made right—right materials, right methods of
construction.

You cannot find a better tire than the Fisk—you can easily find
many that are inferior to it. All we ask is an investigation.

FISK RUBBER COMPANY, Chicopee Falls, Mass.

BOSTON,
604 Atlantic Ave.

SPRINGFIELD,
40 Dwight St.,

NEW YORK,
83 Chambers St.

PHILADELPHIA,
916 Arch St.

SYRACUSE,
423 So. Clinton St.

BUFFALO,
28 W. Genesee St.

DETROIT,
252 Jefferson Ave.

CHICAGO,
54 State St.

SAN FRANCISCO,
114 Second St.

THE BICYCLING WORLD

FOUNDED 1877
and MOTORCYCLE REVIEW

In which is Incorporated
the "Rue Wheel" and the "American Cyclist."

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Members of the trade are invited and are at all times welcome to make our office their headquarters while in New York; our facilities and information will be at their command.

To Facilitate Matters Our Patrons Should

Address us at P. O. Box 649.

NEW YORK, JANUARY 2, 1902.

Sentiments for the Season.

Don't trust to Luck or put faith in the "bad beginning makes a good ending" adage or use it to excuse your shortcomings. Start the year right, and keep right at it by using intelligently and well the wits God gave you.

Forget the boom. Forgive the slump. Both are past. Choke your regrets. If you must whine, whine inwardly. Keep your feet on the ground, best foot foremost. Hold your head up, your lip stiff, your backbone straight. Never mind the past; look to the future. The year 1902 will be a "good" year. Roll up your sleeves, have some faith in yourself and put some enthusiasm in your business and it will be even better than a "good" year.

Every man, they say, is the architect of his own fortune; and he is. Take the horseshoe from your door, and tack up that motto where your eyes can see it early and often.

It will serve you more than a ton of horse-shoes.

England's Happy New Year and Ours.

Speaking from the standpoint of the cycle trade, England begins the new year in a happy frame of mind. During the twelve-month just ended profits were widespread and deficits were few.

America cannot so generally share this happiness; but it can participate in the particularly joyous joy which appears to infect the English cycling journals at least—the joy at the failure of the so-called American invasion.

As if some one had "passed the word," the British prints have been iterating and reiterating the great superiority of their own bicycles and sundries and everything else over anything and everything else produced anywhere and everywhere else, in America in particular. The suspiciously constant repetition has doubtless bred belief in the English mind; but as the average Briton appears to find enjoyment in self-deception no harm is done; rather is the sum total of the year's happiness increased. It is this overpowering and scintillating superiority that has driven back the "American invader" and rescued the island from his clutches, so far as bicycles are concerned; the example of the manner in which the cycle trade has thus "kicked out the foreigner," to quote one writer, is proudly held up as an inspiring example to other British industries which are not yet free from the grasp of the "Yankee monster."

It would not seem that such a situation should afford us much New Year joy, but the joy is there just the same. The manner in which the American bicycle has been overwhelmed by British superiority and "kicked out" by American shoes worn by British feet is shown by the export statistics printed in another column. They show that during the eleven months ending with November last we shipped to the United Kingdom bicycles to the value of \$482,748, as compared with \$424,513 during the corresponding period of the previous year—an increase of about \$60,000 in round figures.

When our loving cousins across the sea can find happiness in such figures, in such effective throttling of the "American monster" and such damning evidence of American inferiority, why should not we share the happy New Year which our distant consins have made for themselves—and for us?

Despite the tainted compliments of the season which they hurl at us, we can afford to be forgiving and to wish them many more merry Christmases and happy New Years of the same sort. And we do!

Light and Full Roadsters.

There is in the human mind some peculiar leaning toward extremes.

The swing of the pendulum typifies this tendency most fittingly. A protest against one extreme is certain, four times out of five, to result in the opposite one being the next step. The happy mean gets all the worst of it, being resorted to only occasionally, and almost as if by chance.

The time was when light roadsters and full roadsters were built by practically all makers. The former were for light and experienced riders on fine roads, while the latter were constructed to stand up under any usage and any rider.

It was not very long, however, before it was found that it was the light roadsters that were chosen in almost every case. No matter how new or heavy or clumsy a rider was, or what miserable apologies for roads he intended to use the machine on, he passed the substantial roadster by and selected the more elegant but fraillier light roadster.

The theory was that after he became an expert he would be able to use a light machine, and meanwhile, instead of initiating himself on the full weight bicycle, he banged the light one around until it was pretty well used up by the time he was really able to appreciate it.

The outcome of it all was that the full roadster disappeared and the featherweight ruled the cycling world.

It proved unsatisfactory, however, and was succeeded by a heavier and of course a better machine. The latter was made to carry the same class of rider that the full roadster was originally designed for, and while it was all right for them, it was not such a machine as men and women of light weight felt they were entitled to receive.

Nevertheless, they have to take such machines or go without.

The average maker turns out bicycles that will carry all riders without fear of breakdowns. He feels that he cannot take the risk of putting out light roadsters and have them purchased and ridden by heavyweights, and his view of the matter is not altogether wrong.

At the same time, it is pretty safe to say that a genuine light roadster would appeal

to a certain number of riders, sufficient to pay a maker for putting them on the market.

What the Year Promises.

In former days the entrance upon the new year always seemed to mark a new epoch to the cyclist. The passing of the old year was like the passing of the Rubicon, an augury of the pleasures the new season was to bring forth.

Of course, the feeling was of a delusive character. The winter was really only beginning. The strengthening of the cold was coincident with the lengthening of the days, and there were many weary, dreary weeks that must elapse before the spring riding season opened.

But in outward seeming it was different. The new year was usually ushered in with a ride if the weather was at all tolerable, and that served to maintain the illusion that better days were near at hand.

If January was almost certain to be a wintry month, there was reason to expect a change for the better in February. Sunshine and warmer weather were almost certain to make their appearance some time during the month, and the keener hands were thus given an opportunity to try the new models.

With the coming of March the season opened in earnest. Save in 1888, when the great blizzard came when the month was nearly two-thirds over, the roads were always swarming with cyclists and the stores were thronged with customers. The old hands bought first, of course, and were soon followed by the general public.

In April and May the cream of the business was skimmed. Indeed, the bulk of the buying, both in new and second hand machines, was done in these months, and what came afterward was little more than the leavings.

In these piping times of peace, when the stress and shock of the war over "talking points," over tires and saddles, has passed away, leaving behind a very calm and perfunctory enjoyment of the inestimable benefits bestowed by the bicycle, it is all very different.

The cyclist's pulse does not stir as of yore, nor does he alternately sigh and exclaim with sorrow for the passing and joy for the coming of the cycling season.

But perhaps he is going to turn over a new leaf this year. Maybe one of his New Year's resolutions is that he will withdraw the cold shoulder that he has turned to his one-time

favorite pastime, and once more let it bask in the smiles of his approbation.

There are not wanting signs that something of the kind is going to happen.

There are to be found all over the country riders who asseverate with more than the usual earnestness that they are going to ride again this year. If the half of them carry their resolution into effect the pastime will get such a fillip as will do it a world of good.

And no one can do more to aid the keeping of such resolutions than the members of the trade.

If the maker and the dealer and the repairer would throw into the business a tithe of the enthusiasm and earnestness that he did a half dozen or a dozen years ago, there would be such a shaking up of the dry bones of cycling as would put it on its feet again and set people to talking about it once more.

How to Make Matters Worse.

The efforts which some men make to recoup waning fortunes or trade is past understanding. Pages might be written on the subject, but one instance will suffice.

Three months ago the manufacturer of an article on which there is much competition, in expressing to us his dissatisfaction with the season's business, admitted, nevertheless, that were he able to equal it in 1902 he would be content and would continue in the cycle trade; in the other contingency he would throw up the connections established at the expense of much time and money and seek new goods to manufacture.

The policy of the concern in question was naturally awaited with unusual interest. Enough has now developed to make it fairly plain. It amounts to about this: Practically all advertising has been cut off, the traveling staff greatly reduced and the goods, which last year gave cause for no little complaint, are being made by the same men in the same old way and without substantial alteration or improvement.

Can any one doubt that before the end of a twelvemonth there will be one factory less identified with the cycle trade?

The instance is cited "for the good that it may do," as we have no doubt that it is not an isolated case.

At this stage, the man in the cycle trade who imagines that he can merely spar for openings or draw in a single horn, is doomed. He will be "knocked out" by his rivals, who realize that the time to hit hardest and oftenest is when "the other fellow" is weak or sparring for wind.

Like a voice from the "days beyond recall," one of the so-called cycling publications that is hanging on by the skin of its teeth in hopes that it may stand in the way of another boom brings the "deadly parallel" to bear on the *Bicycling World*. It reprints one of its utterances of a year or two ago urging those engaged in the cycle trade to actually ride bicycles alongside of a *Bicycling World* editorial urging the trade to do something—to promote something that will attract the attention and enlist the interest of the public. To trace an analogy between merely riding bicycles and "doing something" and "promoting something" is worthy of and is fit tribute to the perspicuity of a "dead one."

Under the new customs tariff, bicycles imported into the Philippine Islands are dutiable at the rate of \$5 each. The duty on "velocipedes" is only \$2 each. It would be useful to have the latter word more clearly defined.—(The Cyclist.)

Know, then, that velocipedes, as the term is generally accepted here, are those little red three-wheelers—one wheel in front, two in rear—which have contributed to the joy of Young America for lo! these many years. They are usually found in toy shops rather than cycle stores.

One of the English makers is turning out a motor tandem of the "lady-back" type—that is, with the drop frame in the rear. It will be well for American makers to not overlook two-seaters of the sort. The "mixed" motor tandem has every claim to increased and constantly increasing popularity. As a rule, a pedal propelled machine of the sort is a "man-killer." Helped by a motor, it can be made the ideal instrument of pleasure that fancy and theory paint it.

With scarcely an exception the British cycling press re-echoes the call of the *Bicycling World* for a cycloimeter that will record the number of miles saved by the use of coaster-brakes. There's good money awaiting the first manufacturer who devises such an instrument.

What that dealer in Patchogue, N. Y., has done, you can do. He saw that a bicycle club is a factor in increasing and maintaining interest, and, seeing his duty, "he done it." He organized the club. May his kind increase and multiply!

ORIENT BICYCLES

Motor
Cycles
and
Auto=
mobiles

MODELS FOR 1902
ARE NOW READY.

WRITE FOR AGENCY.

The Orient line for this season is a winner.
Eight elegant models ranging from \$30 to \$50.

Hand=
some
New
Catalog
is now
in Press

WALTHAM MANUFACTURING COMPANY

WALTHAM, MASSACHUSETTS

The Forsyth Coaster=Brake

represents profit and satisfaction.

HERE'S WHY...

It is longer-lived than the wheel itself and is always in perfect condition.

The working parts can be readily adjusted without removing the wheel from frame.

(No other coaster-brake can be adjusted at all.)

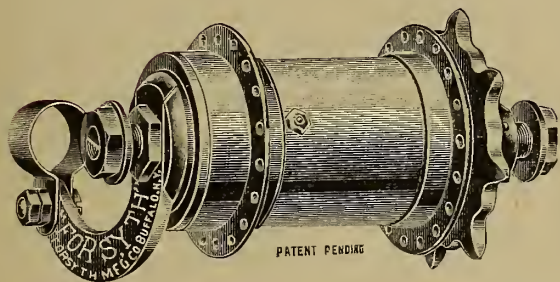
Spins freely either way, and has absolutely no pressure other than the regular bearings.

No slipping or jerking motion.

Instantly releases.

If will pay you to find out ALL about it. We'll cheerfully supply the information. Write us.

FORSYTH MFG. CO., Buffalo, N. Y.



GUARDING TRADE SECRETS

Court Reverses a Ruling and Gives a Decision of Importance to all Manufacturers.

The guarding of trade secrets was ever difficult. Since business began employees in possession of secret formulas and "inside" information have broken away from their first moorings, have engaged with rivals, or, starting in business on their own account, have turned such information to their own advantage.

Generally speaking, the courts have refused to assist or protect those affected by such procedure on the ground that prohibition of the use of such secrets was in restraint of trade. Recently, however, the Appellate Division of the New York Supreme Court took the contrary position in a manner that holds promise that manufacturers can protect themselves from the machinations of trusted employees.

In the case in question it appeared that the Magnolia Metal Co. had engaged Walter B. Price as travelling salesman on a salary of \$7,000 a year, and he had covenanted that in the event of his leaving the company's employ he would not reveal any of their business secrets, nor directly or indirectly engage in a similar business. After his connection with the company had ceased he, according to their allegation, started a rival concern called the Runskool Metal Co., making use of many of the secrets of the Magnolia company and luring away some of their employees. The Magnolia company brought suit. The judge of the trial court refused to allow the plaintiff to prove many of the allegations, and dismissed the complaint on the ground that the contract was one in restraint of trade. In reversing this judgment upon appeal Justice Ingraham, of the Appellate Division, speaking for the court, and after referring to the fact that the plaintiff company had to compete with dealers who manufactured a similar metal, and that Price's position was a confidential one, enabling him to gain a complete knowledge of all the Magnolia Metal Co.'s customers, says:

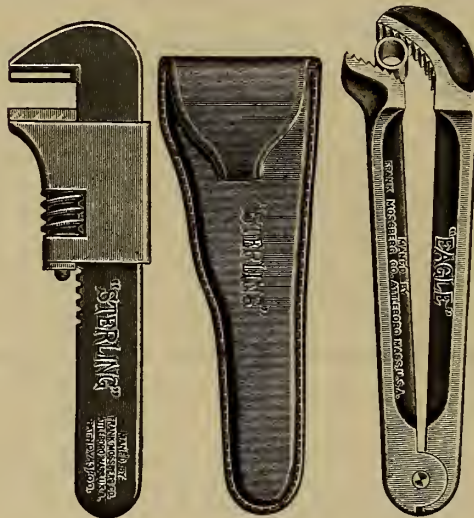
"When a person occupied such a position, which enabled him to obtain such information of the plaintiff's business, it was quite essential for the plaintiff's protection that when such an employe left the plaintiff's employ he should not accept a position in which he could use the information thus obtained to injure the plaintiff's business. . . . How essential this covenant was for the plaintiff's protection is established by the conduct of the defendant. He entered the plaintiff's employ with no knowledge of the business conducted by it. Within a short time he had induced the New England representative of the plaintiff, and one of its largest customers, to organize a corporation to compete for its business, and is now the president of such corporation, trying to in-

duce the plaintiff's agents to leave its employ, using the knowledge of the plaintiff's customers, which he obtained while in its employ, to secure them for the new corporation, and thus directly injuring the plaintiff's business by using the business secrets intrusted to him for his own business advantage and to the injury of the plaintiff."

It may be remarked that the old rule as to contracts in restraint of trade inhibited those which were unlimited as to both time and place. The significance of the present decision depends somewhat upon whether the contract had been thus unlimited.

Made by Mossberg.

Last spring the Frank Mossberg Co., Attleboro, Mass., hit on the idea of presenting to all travelling men and prominent people in the trade one of their nickelled Sterling wrenches engraved with the recipient's name



and inclosed in a neat leather case, similar to the one here illustrated. Some two thousand were thus disposed of, and as a result not only was the demand for Sterling wrenches increased considerably, but there arose a call for the leather cases themselves; in consequence the Mossberg people are this year listing it regularly at 15 cents, the price of the wrench remaining at 25 cents.

In addition they are also marketing the Eagle wrench, shown by the accompanying illustration, and which has proven itself a handy thing for any shop. It is simplicity itself, as may be seen, and is always ready, requiring no adjustment. It is 6 inches long, weighs 8 ounces, and will take any size of nut, bolt or pipe from $\frac{1}{8}$ inch to $\frac{3}{4}$ inch in diameter.

Singer Wont, Premier Will Reconstruct.

Two of the big British cycle firms have within the last few weeks faced the problem of reconstruction and decided it in different ways. The Singer Cycle Co. is not yet ready for this drastic measure, while the New Premier Cycle Co. accepted the scheme devised by a special committee appointed for that purpose. Under it the capital is reduced from \$3,000,000—there are \$1,000,000 of debentures in addition—to \$875,000.

REVIVING AN OLD RIDDLE

How the Cycling Fancy may be Fooled by a Very Simple Question.

Almost as venerable as the "which runs the faster, the top or the bottom of a wheel?" catch, is another one that has been almost forgotten.

It is put in this fashion:

"A cycle being held up with one hand on a level surface, the holder kneeling on the floor beside it, with the cranks absolutely vertical, the lower pedal being nearest the holder, and grasped in his other hand—which way would he move the pedal with his hand to move the cycle forward?"

Almost any one would, after a few moments' reflection, reply that if the pedal were moved backward the machine would go forward. To push the pedal in the opposite direction would be the same as back pedalling, and that, of course, means to go backward. At the same time one cannot help wondering whether moving the pedal backward would not cause the machine to go in the same direction.

Such is really the case. The experiment is easily tried with any machine, and the result is very curious.

Standing alongside the machine, with the cranks in a vertical position, it will be found that the slightest pressure exerted on the down crank moves the cycle backward. Nor will any amount of weight put on the machine counteract this tendency. It might be thought that if weight were applied on the saddle, with the object of causing the tire to "bite" the ground, the gearing would come into action and force the machine forward. But it does not.

Furthermore, it is not until the ascending crank has reached a horizontal position that the backward movement of the machine is changed to a forward one.

This is really the strangest part of it all. When the crank is almost horizontal, when the pull is upward instead of backward, and it would be thought that there would be no tendency to roll the machine backward, this result is still obtained. The only way to make the gear act normally is to lift the rear wheel off the ground while pulling up on the pedal. If this is done the back wheel ceases to move backward, and immediately rolls in the opposite direction.

Dunlop Wants More Support.

In anticipation of the forthcoming annual general meeting of the Dunlop Pneumatic Tire Co., it is being urged upon those shareholders who have not given their assent to the scheme of reconstruction proposed some little time ago that they do so without fail. It is stated by the secretary of the company that the debenture shareholders have unanimously approved of the scheme, as have the holders of 3,000,000 shares.

CALIFORNIA'S MOTOR BICYCLE

Constitutes a Notable Contribution—Embodies Vital and Radical Innovations.

Incorporated but three months ago, as noted in the *Bicycling World* at the time, the California Motor Co., of San Francisco, has made an admirable record in getting its motor bicycle—the California, it is styled—on the market.

The accompanying illustrations, showing right and left hand views of the machine, bear witness that it is an attractive creation; the pictures, however, give small idea of the many originalities which it embodies. The most apparent is the exposed flywheel; the advantages claimed for it are a larger flywheel and greater momentum, and consequently more power.

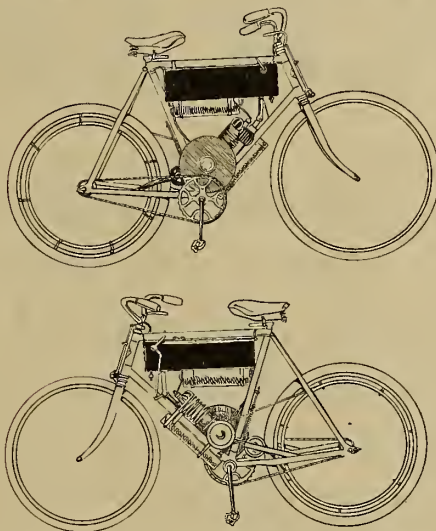
All the gearing and spark mechanism is located on the right side of the engine immediately underneath the flywheel, and by the flywheel is protected from dust. The crank case, being made of one piece, with a side plate, retains the oil absolutely.

The large tank in the top of the frame contains the induction coil, gasoline reservoir and carburetter. There is a wire lever on the top of the tank, and when this sets parallel with the top tube no gasoline can flow from the tank to the carburetter. When this lever is turned to the left it opens the gasoline reservoir and permits gasoline to enter the carburetter. The front end of the tank is the carburetter. In the top of this carburetter is a mixing valve, controlled by a lever on the right side of the carburetter. When this lever is thrown full back toward the rider it not only allows no air to enter the mixer, but also closes all openings and prevents any evaporation of the gasoline. The carburetter is built on an entirely new principle, which, it is claimed, permits the use of any quality of gasoline. It is automatic in its action, but as the patent is pending no description is given.

The lever on the left side of the carburetter controls the amount of gas mixture that is supplied to the motor. When this is thrown back to the limit it closes the throttle valve, so that no gas can be drawn into the motor. It also opens a port hole on the side of the throttle valve, and at the same time opens the suction valve of the engine. The air, having free passage through the port hole and suction valve to the motor, relieves the compression and does away with a petcock and necessary lever. When the lever is thrown forward it opens the suction valve and closes the port hole in the throttle valve, and if thrown to a perpendicular position it opens the throttle valve and allows gas to be drawn into the motor. Thus both compression tap and sparking advance are eliminated.

As stated, the induction coil is in the gasoline tank, and is placed there to retain as far as possible an even temperature of the

coil by keeping it in close proximity to the gasoline, and further to protect it from rain and damp atmosphere; the coil is soldered and sealed into the tank. The battery is hung directly underneath the coil or tank, which makes the wiring as simple as possible. The spark and switch grip, on which patents are pending, is a distinct departure. It is usual with motor bicycles and tricycles to have a removable key somewhere between the battery and the handle bars to disconnect the current when the motor is not in use. A further switch is used in the handle bar, and the current there is completed by means of a grip switch. This is connecting and disconnecting the current at two points. To obviate this the Californians have invented a switch in the handle bar using a removable key. By pressing this key with the finger it completes the circuit, and by pressing the thumb on the opposite side it



breaks the circuit. It is positive in its action. It simplifies the starting of the machine, prevents short circuiting and permits the use of rubber grips, which help to absorb what little vibration there may be in the handle bars.

The motor is driven by a belt; the idler, being hung on a spring, is claimed to be self-adjusting and to take up the slack as required.

One of the bicycles, which is the invention of R. C. Marks, formerly of Toledo, Ohio, is expected in New York within the next week or two; it will be exhibited at the California Co.'s branch, 335 Broadway.

Dont's Like Cheap Machines.

In view of the fact that there has during the last season been a good demand for the better class of bicycles in Great Britain, the action of the Rover Cycle Co. in coming out with a 10-guinea machine of the highest grade is being severely criticised by the greater portion of the trade. The machine in question is fitted with two brakes, a free wheel, best tires and plated rims, and is splendidly finished. It is understood that the Rover Co. will make this practically their mainstay. If there is a higher priced wheel put out by it there will be but little difference to distinguish them.

RECORDING MILES COASTED

How the Distance Saved by use of Coaster-Brakes may be Tallied.

It will be recalled that a short time ago it was pointed out in these columns that a cyclometer which would measure the mileage coasted by the rider of a coaster brake machine would fill a want.

The necessity for making a rather elaborate calculation if the crank hanger is utilized for affixing the cyclometer—due to the fact that the latter is designed to record wheel revolutions, while the crank travels at less than half the speed of the wheel—emphasized this want. To all appearances, however, it was never filled.

It has remained for an English rider to come forward with a solution of the problem. It is such a simple suggestion that the wonder is that it was not thought of before, and it is quite probable that it was thought of and made use of and then forgotten.

His method is to attach an ordinary cyclometer to the rear fork end, in such a manner that it will be actuated by a striker on the sprocket wheel. This will, of course, record the number of miles pedalled, and by subtracting this reading from that of the cyclometer attached to the front wheel in the usual manner, the distance coasted will be obtained. The only difficulty is to find a way of fitting the cyclometer to the back wheel. How this is done the rider explains:

"This is the trick," he says: "Fix one cyclometer on the front wheel as usual; have an attachment made, if necessary, to fix the other one to back fork end or axle on clutch elometer to drive the star wheel in the right side. To make a star wheel striker take a short piece of cycle spoke, flatten one end of it and bend it to a right angle, firmly solder the flattened end to the outer edge of the clutch ring, adjust this striker and the cyclometer to drive the star wheel in the right side. The rear cyclometer only registers when the machine is pedalled, but the fore one registers the whole distance; at the end of the journey subtract one record from the other. The result will be the distance free-wheeled, and that distance may surprise the habitual free-wheeler."

Almost a Motocycle Primer.

To their several publications bearing on the Mitchell motor bicycle the Wisconsin Wheel Works, Racine, Wis., have just added another one, and the most instructive and valuable of all. While it is designed mainly to detail the manner of operating and caring for the Mitchell, it contains diagrams of the several vital parts that make it almost a motorcycle primer; it shows clearly exactly how they are constructed, and explains explicitly how best to take care of them and to make the motor do the work which it is designed to do. The little book is of vest pocket size and bound in stiff cardboard. It is full of information and instruction, particularly for the novice and the man who is "just thinking" of motor bicycles.

The Eagle Bicycle

TORRINGTON,

MADE

STANDARD AGE



For **FIFTEEN YEARS** we have been coming regularly to the

Dealers cannot afford to exert their energies nor spend their name nor reputation. It is an injustice to the purchaser a grade of machines. The public is willing to pay a fair price value of a bicycle made and sold under an established name.

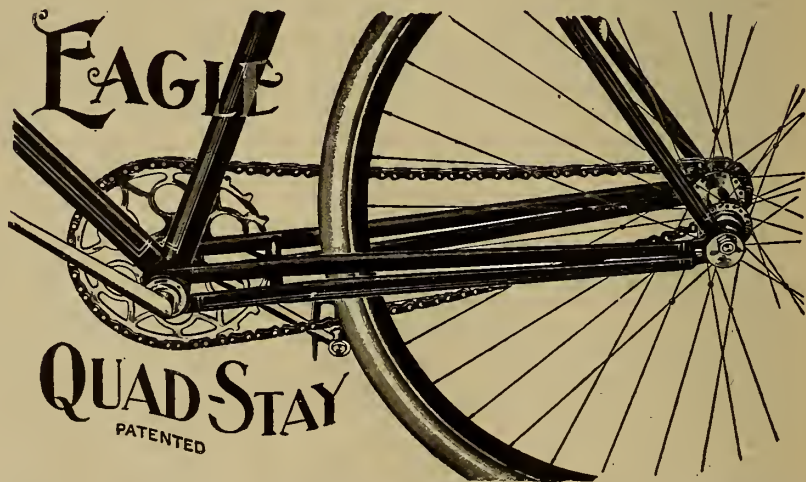
It is acknowledged that there are now only two types of bicycles: **THE EAGLE** ❁ ❁ ❁ and the bicycle of common construction, to wit: "The bicycle of the past." ❁ ❁ ❁ ❁ ❁

We spare no expense in making improvements. There are more new and good features in Eagle Bicycles than in all other makes combined. ❁ ❁

THE wide range of choice offered, makes the Eagle line the most complete ever made in one factory.

While we manufacture bicycles exclusively, and in very large quantities, it is not our aim to become recognized as the largest manufacturers of bicycles, but rather to become known throughout the world as makers of the best bicycle that money, skill and modern machinery can produce.

We do not continue to manufacture one stereotyped pattern because it is cheaper to do so, but are constantly striving to excel.



e Mfg. Company

CONNECTICUT,

OF

NCY BICYCLES.

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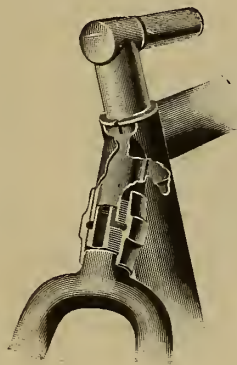
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Rigid and immovable, yet more
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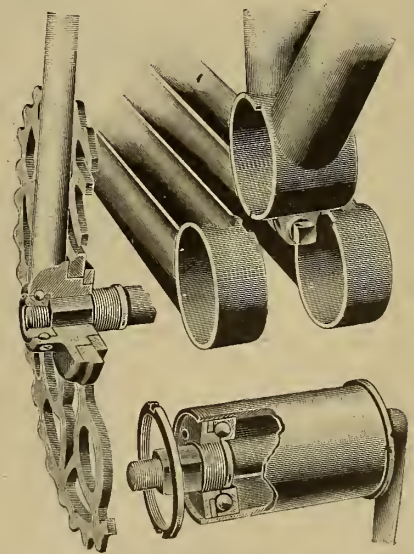
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ion. Eagle Models No. 16 and 18 embody this construction.



✻ ✻ The primitive method was to weld all joints
securely. ✻ The modern method is to make them
in separate parts and fasten by ingenious devices.

THE
EAGLE
NEW
FRAME
CONSTRUCTION.
“PATENTED.”



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WITH this construction the front and rear parts of the frame are made separate and are fastened together mechanically at crank bracket and seat post cluster.

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THE
EAGLE
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CONSTRUCTION.
"PATENTED."



THOSE WHO ARE SEEKING

A strictly high grade equipment and a quality that is standard, the country over, cannot afford to overlook our line.

The Hartford Single Tube Tire

and the

Dunlop Detachable Tire

have a name and fame everywhere as being the most successful and reliable of their respective types.

THEY RAISE THE STANDARD OF ANY PRODUCT
IN THE ESTIMATION OF THE PURCHASER.

There are none better, and few as good ;
none as well and favorably known.

OUR REPUTATION WILL NOT PERMIT OF OUR
MAKING ANY INFERIOR ARTICLE.

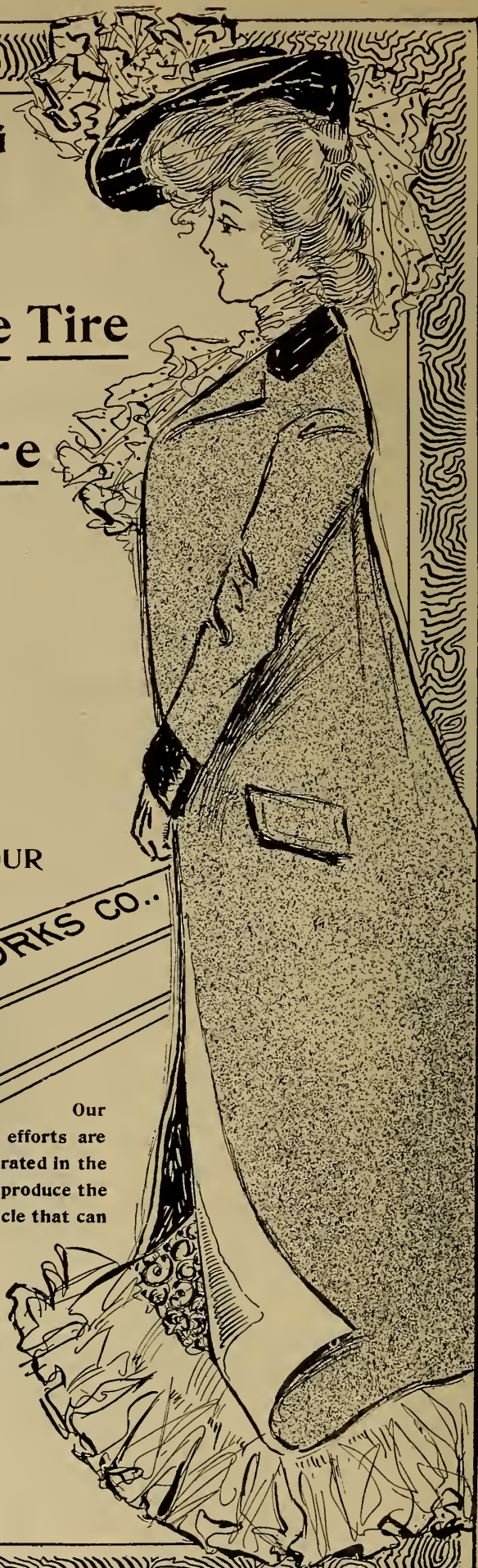
Let us furnish you advice
regarding the tire best
adapted to your
requirements.

THE HARTFORD RUBBER WORKS CO..
HARTFORD, CONN.

Our
efforts are
concentrated in the
endeavor to produce the
highest grade article that can
be made.

Special attention is called to facilities
which are extended through our Branch
Houses for taking care of Hartford and
Dunlop Tires and their users.

BRANCH HOUSES.—BOSTON, NEW YORK, CHICAGO,
PHILADELPHIA, WASHINGTON, BUFFALO, CLEVELAND,
DETROIT, MINNEAPOLIS, DENVER, SAN FRANCISCO.



TOO MUCH GLOOM

A Dealer Takes his Brethern to Task— Finds Some Bright Spots.

"You must not believe that the business is as bad as it is painted," remarked a well known dealer recently, "or think that we do not make occasional sales, even at this season of the year.

"It has not gone quite that far yet," he went on. "The day of bigness has gone by, of course. Big stores, big sales, big money—all have passed away, and we who remain in the business must content ourselves with little things. We must get away from all the old ideas, all the old points of view. If the sales have shrunk, if prices are no longer what they were a few years ago, if we rejoice as much over one sale as we did over a dozen in the days of the boom, we should remember that there is another side to the picture. The oldtime expenses no longer rule. We don't have the store rent or the clerk hire or the repairmen's wages to pay as we did. There is no such lavish spending as we were once accustomed to.

"When you come to think of it, the net result was not so vastly different where most of us were concerned. A few dealers made a lot of money, most of us made a little, and some lost it, even in the late nineties. But if a balance were struck it would show pretty plainly that, in the retail trade at least, the average profits were not great.

"Now, I don't attempt to say that we dealers are an enviable lot, or that we have any particular cause to congratulate ourselves on being in such a business. But there is, or ought to be, moderation in all things, and just now it is seldom practised in talking of the bicycle business. If there wasn't some kind of a living in it we could not hang on the way we do, and yet you know that we do cling pretty tenaciously. In fact, the business would be a much better one if a few more of us would drop out.

"As for myself, I manage to eke out an existence. My family is provided with food, heat, light and clothes, not to mention a few incidentals not necessary to emphasize. It is true that it does not all come out of selling and repairing bicycles. I handle a few articles on the side, and manage to make the balance come on the right side of the ledger with their aid.

"So what is the use of always playing the Jeremiah? If we don't like it we can leave it; and, really, I think the ones who are the blttest and the most doleful ought to do this.

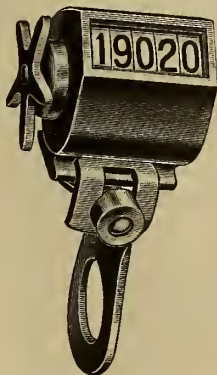
"Speaking for myself, I hang on because the best years of my life have been spent in the business, and I would feel very strange turning my hand to anything else. Besides, I can't get rid of the idea that there's going to be a change for the better before very long. There's no lane so long that it does not come to an end somewhere, no business

so bad that it does not come to the worst sooner or later.

"If you only go down far enough you'll strike bottom, and it seems to me that we are pretty near that point now. So I am going to hold on, for there is no telling when the turn of the tide will come."

Veeder Changes Shape.

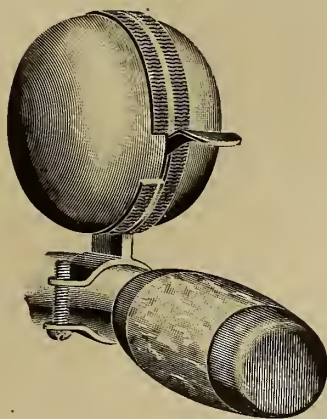
With all rivals routed and with the field entirely to themselves, the Veeder Mfg. Co. might easily have "let well enough alone" and continued the Veeder cyclometer unaltered. But they saw an opportunity to



make easier the reading of the instrument and accordingly the round barrel shape has been abandoned, the 1902 model being of the shape shown by the accompanying illustration. The figures being placed on a perfect level and at an angle that permits them to be more readily seen from the saddle, the improvement, though small, accomplishes a well defined purpose; the mechanism of the cyclometer remains unchanged.

Bevin's new Bell.

While the 1902 Catalog of the Bevin Bros. Mfg. Co., East Hampton, Conn., was issued only a few weeks ago, that old but very-



much-alive concern has since added to its line another bell, the Royal Chime, shown by the accompanying illustration. It is of the rotary movement type, with stationary gongs and is listed at a price that is interesting, to say the least.

The Retail Record.

West Palm Beach, Fla.—F. H. Marshall has opened a new store.

Ithaca, N. Y.—E. S. Robinson will open a new store at 118 West State street.

'LIFE OF TIRES

Are Thin Sides a Factor?—Cushions and "Inflated Cushions" Recalled.

What is a pneumatic tire? At this late day almost any one can answer such a simple question. An envelope of rubber and canvas, containing air, will be the triumphant answer, and the questioned one will look for approval of his readiness.

The question is brought to mind by an article in a contemporary "touchin' on and appertainin' to" such things as the life of tires, the advantages of compressing the rubber and the like. The contention is made that compression adds to the life of the tire—that is, both to its longevity and its resiliency. The undoubted fact that the latter quality is best secured by making tires with thin sides is dwelt upon.

In the old days, when the pneumatic tire was just setting out in good earnest to conquer the world, tires with walls of the same thickness all around were derisively termed inflated cushions by no inconsiderable portion of the trade and public. The fact that they had a hole in them, and that this hole contained air, did not protect tires of this character from such derogatory terms. Inflated cushions they were termed if their walls were not graduated, and it made little difference whether their cross diameter was large or small.

It was held, and, indeed, demonstrated, that a nice graduation of the walls of the tire made it vastly more resilient. Not only was thickness of walls unnecessary, but it was a positive detriment.

In the original cushion tires, for example, the weak point, the fatal defect, was almost invariably found in these same walls. As the wheel rolled around and brought the weight on the portion of the tire in contact with the ground, and then, passing on, released it, a bellows-like action was conveyed to the tire. In the course of time this destroyed the life of the rubber and frequently caused the sides of the tire to split. When this happened, as it did in thousands of cases, the tire was rendered useless, and in a short time had to be thrown away.

The same action, in a less marked form, frequently took place with an "inflated cushion." The bellows action caused the disintegration of the strands of the fabric, and the tire would frequently explode with a loud report. This even happened sometimes with the outer covers of detachable tires, where the walls were of the same thickness all the way around.

In the tires of to-day the defect is not so noticeable. This arises from two causes—one a marked improvement in the processes of manufacture of pneumatic tires, and the other the almost universal tendency to make the tread much thicker than the walls.

Across the water the matter has been carried even further. Lighter tires, for racing on track and road, are put out without any rubber on the sides, and with just enough fabric to confine the air. They are remarkably resilient, of course, but their fragility prevents their ever becoming popular.

There can be
Nothing Better
than the
**OAK
SADDLE**



simply because
Nothing Better
can be made,
and as
We Make Each
and Every Part
of it,

we are able to name a
price and to back it with a

Guarantee

such as goes with

No Other Saddle

Investigate for Yourself.

Newark Cycle Specialty
Company,

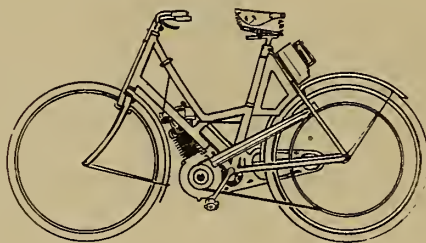
NEWARK, NEW JERSEY.

Function of the Chain Adjuster.

There are too many riders who appear to think that the function of a chain adjuster is to hold the back wheel in the frame in conjunction with the axle nut. They give the latter a turn with a wrench, and if that tightens it enough to hold the axle in the frame slot, well and good; if not, the chain adjuster will do the rest, they seem to argue. Just because the latter will sometimes hold a wheel when the axle nuts loosen is no reason why it should be expected to do so. It is not designed with that purpose in view, and if the thread does not strip or the screw or ring break it is due to good luck and not to good management on the part of the rider. The axle nuts should be firmly secured, particularly the one on the chain side, as there is a great strain on them consequent upon the stress of driving.

Motor Bicycle for Womankind.

While the glory of being the first to produce a motor bicycle for women still awaits some American, several machines of the sort have made their appearance in England. The



Bicycling World has already illustrated two of them, the Singer and the Excelsior. The accompanying cut shows a later arrival, the Ival.

Novelty in Speed Indicators.

Something new in speed indicators has made its appearance on "the other side." It is thus described: The indicator is fixed inside the front wheel, revolving in it, one end being attached to the hub and the other to the rim. The centrifugal force as the speed increases gradually carries a small weight from the centre of the wheel, which action unrolls a tape off one on to another roll. Silver figures printed on this tape show the speed in miles per hour to the rider through an aperture in the case between the two rolls; a spring holds the weight in check, so that it always assumes the same distance from the centre at the same speed. The weight complete is about two ounces.

Hussey Connects With Canada.

The Hussey handle bar will hereafter be made on both sides of the border. The inventor, P. L. Hussey, has licensed the Canada Cycle and Motor Company, Toronto, to manufacture and sell the bar in the Dominion.

"How to Drive a Motorcycle." See "Motorcycles and How to Manage Them." \$1. The Goodman Co., Box 649, New York. ***

If
You Are
Interested
in
Automobiles



WILL SURELY
INTEREST YOU.

It is published for the information
of the average mortal; no dic-
tionary of mechanical
terms is needed to
understand it.

PUBLISHED EVERY THURSDAY
AT 123-125 TRIBUNE BUILDING,

NEW YORK CITY.

\$2.00 PER YEAR.
10 CENTS PER COPY.

SAMPLE COPY ON APPLICATION.

CATALOGS OF THE YEAR

In Color and General Get-up Equal to Past Standards—Some of Them.

The 1902 catalogues are now putting in their appearance, and, generally speaking, they are as attractive and interesting and full of color as any that have marked previous years.

Those issued by the American Cycle Manufacturing Company constitute quite a galaxy in themselves. It is difficult to say which deserves the palm, but it is a fair guess that, viewed from the outside, the average man would be most apt to select either the Columbia or the Tribune catalogue, with the odds favoring the latter. Its cover of daintily harmonized pink, gold and robin's egg blue tickles the eye at first glance. The Columbia cover is in hardier and more obtrusive colors, illuminated by a cycling scene in early spring that conjures pleasant memories and reflections.

So far as the letter press is concerned, the Rambler book is most crisply and happily written. Let the preface speak for itself:

"Nothing is more impressive than that evolution is seen in everything. Compare the first railroad train with the present vestibuled limited; the ancient sailing vessel with the modern ocean liner; the primitive printing press of Franklin's day with the mammoth printing machinery of the present, and so on, ad infinitum. The strides made in the inventive field within the last quarter of a century have been marvelously greater, as we all know, than in any like period of the world's history.

"The sculptor's reputation is not made by the first work of his chisel, neither do the earlier efforts of the draughtsman show the highest attainments in architecture; the best in everything is the result of making the good better and in keeping everlastingly at it. It is the process of refinement. Under the master hand crudity gives way to graceful lines; weight and clumsiness yield to lightness; strength and simplicity strive for supremacy, and beauty is triumphant. The manufacturer seeks perfection in his creation, as the growing plant seeks the light.

"In this twenty-third year of its manufacture, the Rambler bicycle, like the artist's masterpiece, shows the finishing touches of its creator's hand. Good at first, it has been infinitely improved each succeeding season. It has been sublimated, we may say, to use an expressive figure of speech—refined, idealized, perfected—until now it is a thing of absolute delight to the wheelman and of proud satisfaction to the manufacturer."

The Crescent and Monarch catalogues are not devoid of attractiveness and interest, but they are easily outclassed by the others. The Cleveland book has been delayed, an advance pamphlet being made to serve meanwhile.

The catalogues make one thing plain: That if uniformity of design and construction was

a cardinal idea in the formation of the American Bicycle Company—which may be doubted—little has been done in that direction. Each of the bicycles has an abundance of personality and exclusiveness all its own.

"Making the Morrow Coaster Brake" is the title of the Eclipse Manufacturing Company's annual, the title page depicting a workman pushing a "run" of Morrows into the cherry red annealing furnace, the rich red casting its glow over the whole scene; the back cover pictures the big Eclipse factory at Elmira, the only one in the world devoted exclusively to the manufacture of coaster brakes. Between the covers is told the story suggested by the title of the catalogue. Faithful photographs of the men and the machines that produce the Morrow are reproduced, each succeeding page carrying the reader from one process to the other. It is a publication that adds to one's information and instruction.

How Marshes Have Been Improved.

The Marsh motor bicycle for 1902 is a considerably altered and improved and more attractive machine, as the illustration accompanying the ad. attests. It is in the fullest sense a motor bicycle, and not merely a motor bolted to a bicycle, the motor, as will be seen, now being built into place and displacing the seatmast tube; it is secured rigidly to the bottom bracket by four strong lugs which form a part of the crank hanger forging; at the top it is held by a steel union connection to the seatmast extension.

The motor is $1\frac{3}{4}$ horsepower, actual brake test. The fuel tank holds sufficient gasoline for from 80 to 100 miles, and is neatly suspended under the top tube of the frame. The battery is of the box type, holding four cells, and is placed just to the rear of the saddle on the back stays; this, the Marsh people say, is an essential feature from a tourist's point of view, in the event of it becoming necessary to renew the battery on the road. The coil is the best obtainable, and requires no attention whatever; it will last indefinitely if not carelessly broken. A new spark plug, asserted to be non-breakable, is among the improvements.

The muffler is neat and compact, being placed under the hanger, and renders the machine practically noiseless. The carburetor is of the well known float feed type. The power is transmitted from the engine to the rear wheel by means of a specially prepared flat leather belt of double thickness.

The bicycle proper is built specially for the purpose for which it is employed. There are no ordinary bicycle joints in the frame, all fittings being extra heavy drop forgings machined in the Marsh factory, with new and accurate machinery made especially for the purpose. The forks are extra strong, the crown being made up of three drop forged plates, and the sides of $1\frac{1}{4}$ -inch heavy gauge.

It is the general opinion that business at the two recent British shows was much better than for a number of years past.

SPOILING GOLDEN EGGS

How Motorcycle Makers Injure Their Interest by Juggling With Prices.

Editor The Bicycling World:

As manufacturers of motor cycles, we believe there is one point that should be carefully considered by concerns now engaged in, or intending to engage, in this line of business, and as the game is very young, it is well worth the attention of all, as we believe it is of vital importance. To illustrate what we say, and as a sort of text, we would cite a recent instance.

We received an inquiry concerning our Mitchell motor cycle from a prominent Eastern physician, to which we promptly responded by sending our descriptive catalogue, and quoting him our regular retail price of \$200. It afterwards transpired that on the same day he wrote us, he wrote to every other manufacturer of motor cycles in the country whose address he was able to procure, and with the single exception of ourselves, every one of these manufacturers to whom he wrote quoted him either low agent's prices, or, in some cases, jobbing prices. This man was amply able to pay the full price for his machine; he would not under any circumstances put in any time in interesting prospective purchasers; he would not act as agent for the machine, and while the manufacturer who quoted the agent's or the jobber's prices to him might be able to introduce his machine in that locality, he would run the risk of killing for all time the chance of securing a good representative, one who would push the sale and be interested in taking care of the machines for what there was in it. It is our belief that there are tens of thousands of people in the United States with \$200 who would not hesitate an instant to put that amount into a motor bicycle, as soon as they can be shown that the machine is practical and reliable. The combined capacity of all the factories putting out motor bicycles in the United States, providing each one of them is building a really practical machine, would not be sufficient to fill the demand that is sure to come. It looks very foolish to those who have been through the bicycle game for the last twenty years to see these manufacturers deliberately attempt to kill the goose that is laying a golden egg, although the egg in this case is not an unreasonably large one.

We are writing you this, not to be published unless you see fit to do so. We would suggest, rather, that you make it the subject of an editorial, and trust you will do so at an early date, providing our sentiments, as briefly outlined above, meet with your approval.

WISCONSIN WHEEL WORKS,

S. F. Heath, Sales Manager.

Racine Junction, Wis., Dec. 31, 1901.

“Knowledge is Power”

and than now

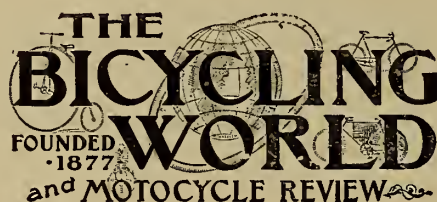
it was never more powerful in the Cycle Trade.

**The Dealer Who Knows
What's What and Who's Who**

and who keeps himself constantly informed

Is the One Who Will Survive.

.... IT IS THE MISSION OF



TO SUPPLY JUST SUCH INFORMATION.

If you are content merely to drift with the tide—if you are content to live within your narrow shell—the statement will suggest nothing. If you are watchful and wide-awake; if you are a really progressive merchant who desires to survive and to keep abreast of the times, this subscription blank will be hint enough for you.

THE GOODMAN COMPANY,

124 Tribune Building, New York.

Enclosed find \$2.00 for which enter my subscription
to the BICYCLING WORLD for one year, commencing
with the issue of

Name

Address

About the Manufacturing Nations.

The great competing manufacturing or machine-using States of the world are the United States, the United Kingdom, Germany, France, Belgium and the Netherlands, says an economic writer of national reputation.

Their population, in round numbers, figures about 230,000,000, of which the people of the United States count one-third. Outside these countries there are more than 1,200,000,000 people waiting for a supply of the manufactured goods of these machine-using countries. Other European countries—Austria, Italy, Spain—barely supply their own wants, while the competition in manufactures in the commerce of the world may be disregarded, excepting as to a few special products, such as the silks of the East.

Glance a moment at the relative resources of these machine-using nations. The United States produce an excess of all the metals except tin; an excess of the products of the field with scarcely an exception; an excess of the products of the forests, soon to be supplemented by the vast resources of Canada, lest we should denude our forest lands too rapidly; an excess of coal and of oil; an excess of all fibres excepting silk and wool, reeled silk being too much a product of hand-work to become profitable in a machine-using State (as Daniel Webster said, "We can't afford to do ourselves what foreign paupers can do so well for us"); wool capable of being produced in excess of our own wants, especially upon the uplands and in the mountain valleys of the South whenever the cur dog is suppressed and a reasonable share of intelligence applied to the rotation of sheep, corn and cotton on the same field.

On the other hand, we find our competitors in Europe deficient in and mainly dependent upon us for a supply of food and of the most important materials entering into their processes of manufacture. Great Britain is deficient in food, in fibres, in ores fit for making steel, and is subject to increasing cost of coal, with the possibility of the exhaustion of her coking coal.

France and Belgium are amply supplied with food, deficient in fibres, in metals, and in fuel. Germany, with a poor soil, is barely capable of subsistence, and is deficient in timber, in fibres and in fuel. The Netherlands are too small to have any considerable influence in the larger undertakings of commerce, except as carriers and importers in transit.

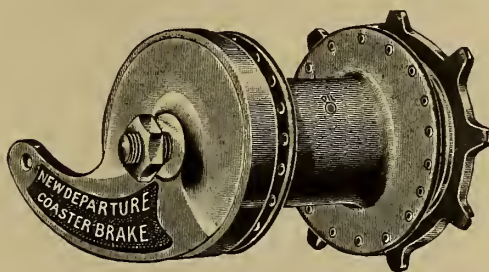
Yet more, in no other country has so small a number of men been diverted from the constructive work of peace to the destructive pursuit of war, since slavery destroyed itself in our Civil War, as in the United States. In one respect, even the Civil War was constructive, since it made way for the new industries of the regenerated South.

The result of these conditions is found in the fact that in no other country is the cost of labor per unit of product so low, and in no other country are the rates of wages earned in factories or furnaces, the work-

shop, the mine, forest or field, so high, the only exception to this rule being in those few arts which cannot be conducted successfully without an untaxed supply of materials of foreign origin which are necessary in the process of our domestic industry.

What New Departure has Done.

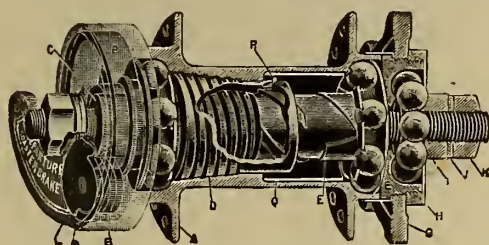
That the New Departure coaster-brake has more than held its own, despite the great increase in competition, is made plain by the statement of the New Departure Mfg. Co. that during the two months they tripled their sales; this carried with it, of course, a threefold increase in their factory facilities,



and places them in a position to take care of the increased demand that is in sight.

While the principle of the coaster-brake is unchanged, as the accompanying illustration makes plain, the New Departure people have not rested content with the belief that it was "good enough." Accordingly the 1902 model bears evidence of a number of refinements that cannot but meet with appreciation.

In addition to their regular hub, which



gives 1½-inch, 1¾-inch and 1¾-inch chain lines, and tandem hub, which gives 1¾-inch, 2-inch and 2½-inch chain lines, they have added a special hub, giving 111-32-inch, 115-32-inch and 119-32-inch chain lines. Sprockets are furnished from 7 to 12 tooth, ¾-inch, 3-16-inch and ¼-inch thick. This new hub, combined with the old ones and large assortment of sprockets, puts the New Departure Co. and their selling agents, John H. Graham & Co., New York, in position to meet all demands that may arise.

An Opportunity for Someone.

The Industrial Machine Co., Syracuse, N. Y., now have their Phoenix coaster-brake ready for the market. It has many features that entitle it to notice, not the least of which is its price, \$3.50. The Industrial people make a number of other specialties, and if the right parties can be located they are ready to make them general sales agent for the coaster-brake, samples of which will be submitted on request.

As old as the Pharaohs.

While machine tools in their present form are essentially a modern product, many of the principles involved in their construction and operation can be traced back to the dawn of history.

Machines for cutting, grinding, turning, polishing or hammering solid or plastic bodies have been used from early times. The potter's wheel, which is properly a machine tool, was employed in ancient Egypt. It was at first a simple disk turned by hand, but later a flywheel operated by foot power was added. A stone circular saw, which is estimated to be 2,600 years old, has recently been found at Thebes.

The antiquity of the lathe is proved by the remains in Egypt and Assyria of objects which show its use as far back as 500 B. C. The use of the grindstone is also evidenced by ancient tools which could hardly have been made without it. Glass grinding lathes and appliances for grinding precious stones are also of early date.

The machine tools of ancient and mediæval times were probably made chiefly of wood, and it is for the most part since the beginning of the nineteenth century that iron has been employed.

It is believed that many modern machine tools are rediscoveries of types that were lost in the Middle Ages. Like some of the modern trades unions, the mediæval guilds of craftsmen were hostile to the introduction of machinery.

Learning the Lesson.

"A few weeks ago a young American business man called at the consulate to tell me that one American firm at least had followed my plan in export trade and had been wonderfully successful in doing so," writes Consul Halstead from Birmingham, England. "I understand that my caller had read and approved of those portions of my trade reports where, in entire agreement with all of my consular colleagues, I have urged that American manufacturers study and regard not only the needs, but even the whims, of foreign customers, and that, having ample capital and a good working partner, he had put the idea into successful operation. The firm has about eight agencies. In each contract there is a clause binding the manufacturer to make and pack and ship any article in exactly the way the London agent specifies, and no agency is taken from a manufacturer who will not so bind himself in legal form, and the manufacturer is given to understand that this is the most important clause in the contract and that his personal views on foreign markets are not wanted. As an example, my caller told me that last year he sold in great numbers an American made bicycle built almost on British lines, with double tube tire and metal rims, and that for the coming season his bicycles will have exact reproductions of standard British bicycle fittings and Whitworth threads."

RACING

Eleven teams began a week's grind at Park Square, Boston, December 30, at 1:36 o'clock p. m. Of the eleven teams entered only three that competed in the contest at New York will ride. Some changes have been made in team mates in hope of getting better results. The original teams that competed in the New York race are Butler and McLean, who finished fifth in the event at Madison Square Garden; Samuelson and King, Fisher and Chevalier, and Gougoltz and Simar. MacFarland and Freeman, who started in the New York race, will not pair in this contest. MacFarland has taken Maya as a partner, and Freeman has doubled up with Munroe. The teams will race ten hours each day, beginning at 1 p. m. and quitting at 11 p. m. The full list of starters follows: Gougoltz and Simar, France; Fisher and Chevalier, France; Muller and Jaak, Italy; MacFarland and Maya, San José, Cal.; Butler and McLean, Boston; King and Samuelson, Salt Lake City; Munroe and Freeman, Portland, Ore.; Rutz and Leander, Chicago; McConnell and Carni, Boston; Krebs and Keegan, Lowell, and Fulton and Sullivan, New York. Owing to the wet condition of the track from a leaky roof, laps lost or gained in the first hour were not counted, the men starting on even terms at the end of that period. At the end of the first hour the field had covered 23 miles 4 laps. Throughout the day they averaged 22 miles an hour. By 8 o'clock they had covered something over 132 miles. Judging from the work of the afternoon and evening, it looks as though this race will be a hard proposition for the men, for the construction of the track is such that they have to keep moving, and moving fast at that. The scores at 11:36 o'clock, when the first day ended, were:

	Miles.	Laps.
Munroe and Freeman.....	206	3
Gougoltz and Simar.....	206	3
Butler and McLean.....	206	3
MacFarland and Maya.....	206	3
Samuelson and King.....	206	3
Leander and Rutz.....	206	3
Fisher and Chevalier.....	206	2
Keegan and Krebs.....	206	1
Jaak and Muller.....	206	0
McConnell and Carni.....	205	9

In the way of special attraction Champion on a motor bicycle paced Michael two miles in 3:04, the second mile being covered by Michael in 1:26, announced to be the fastest indoor mile on record. Tensler paced Stinson for a two mile exhibition in 3:20.

McFarland, with Monroe hanging to his rear wheel, flashed across the tape in the lead at the finish of the second day of the six-day bicycle race.

The leading sextet continued to lap the others during the evening, but despite the hardest efforts of McFarland, Freeman and Gougoltz, the deadlock remained unbroken.

The score at the end of the second day's twenty-hour, was: Teams—McFarland and Maya, 404 miles, 5 laps; Butler and McLean, 404, 5; King and Samuelson, 404, 5; Gougoltz and Simar, 404, 5; Munroe and Freeman, 404, 5; Leander and Rutz, 404, 5; Fischer and Chevalier, 404, 3; Krebs and Keegan, 404, 1; Jaak and Muller, 403, 9; McConnell and Carni, 403, 3.

The riders started on the third day's grind as though bound for the Klondike. The barnlike building, an abandoned railroad freight depot, was freezing cold, and as cheerless as it felt. McLean finished first. The team composed of Carni and McConnell withdrew through the inability of the former to hold the pace. The hard riding of two days had had its effect upon the men, and although spasmodic sprints were indulged in, no great effort was made to gain laps. In the evening Jaak lost a lap, and in the last hour Krebs and Keegan gained a lap on the field.

The score at the end of the thirtieth hour was: Teams—Gougoltz and Simar, 607 miles, 2 laps; Rutz and Leander, 607, 2; Butler and McLean, 607, 2; King and Samuelson, 607, 2; McFarland and Maya, 607, 2; Monroe and Freeman, 607, 2; Fischer and Chevalier, 607, 0; Krebs and Keegan, 606, 9; Jaak and Muller, 606, 5.

A comparatively small crowd attended the opening of the indoor bicycle season in Park Square Garden, Boston, December 24. Christmas Eve proved a bad time to bring out the people. Twenty-five riders were sent away in the five mile open amateur event. On the ten lap track, pronounced by all who have tried it perfect for fast riding, they jumbled themselves into all sorts of smashups. Singly, in pairs, four, five, and even six at a time, they piled in heaps. Only seven of the twenty-five finished; of these Sulkins finished first, Curry second and Galvin third. Time, 12:11 2-5. Michael rode an exhibition two miles behind motorcycle pace in 3:24 1-5. Champion, who has not recovered from his accident in Madison Square Garden, rode an exhibition mile on a motor bicycle in 1:28 4-5. The one mile professional was won by Leander from the 65 yard mark in 2:06 3-5; Rutz (70 yards), second; McLean (scratch), third, and McConnell (85 yards), fourth. Thirteen men started in the twenty-five mile open race. The riders were warned of their unlucky talisman as they went away, and were cautioned to be careful. Keegan and Carni found the professional bunch (to which they had just come) too warm for them. They were lapped in the second mile. Keegan quit, and Carni followed. Wilson pulled out in the sixth mile. In the tenth McLean punctured a tire and dropped out. Leander quit in the fourteenth mile. In the fifteenth mile Maya, MacFarland and McConnell fell on the bank, leaving only five men up. Maya's front wheel collapsed. In the last mile they constantly changed positions. Munroe led. Gougoltz gained his side in the fifth lap and took the lead in the sixth. Freeman

gained second place, and, jumping, took first by several lengths, with Rutz second and Gougoltz, Munroe and Butler in the order named. Time, 1:06:08.

Saturday night, December 28, on the same track, Michael had no trouble in defeating Stinson by five laps in a fifteen mile motor paced race. Time, 26:15 3-5. At the sendoff Michael began to gain gradually on Stinson, and had 1½ laps to the good when his tire came off, and he was compelled to stop for repairs. Before Stinson had gained more than three laps Michael came after him with a rush, made up his lost distance, and once more took the lead, holding it to the finish. In the mile professional handicap McConnell (90 yards) won; Carni (130 yards), second, and MacFarland (scratch), third. Time, 1:58 1-5. The ten mile open, for amateurs, was won by Potter in 25:11 4-5, with Curry second and Galvin third. Sulkins finished first in this race, but was disqualified for riding inside the line.

That midnight event, the New York-Tarrytown race, which has for many years inaugurated the New Year, occurred as usual. The start was made on the tap of the bell announcing the birth of 1902, twelve men leaving Fifty-ninth street at that hour. It soon revolved itself into a ding dong fight between Bedell and Cahn. Bedell reached Yonkers first, only ten seconds ahead of Cahn, securing the bottle of wine, but was beaten fifteen minutes into Tarrytown (twenty-six miles) by Cahn, in one hour, twenty-eight minutes.

The Gebereaux trophy, given for the race from Central Park to Yonkers, which is a part of the Tarrytown event, was won by Bedell, and now becomes the property of the Harlem Wheelmen, having been won by their representatives three times. Bedell also received a gold medal. Cahn won a gold medal, and his club receives the custody of the Simms Trophy, a silver cup given by former City Magistrate Simms.

Two lesser events were also run at the same hour. One by the C. R. C., from Brooklyn to Valley Stream, fifteen and a half miles, and the other by the New York State Division of the Century Road Club of America, from Bedford Rest to Coney Island and return.

The former was won by Anderson in 43:30, half a minute better than the previous record of 44:00. Schwartz second, three minutes behind; Hoffer third, Barclay fourth, Jackson fifth and Britton sixth. Nineteen starters.

The race to Coney Island and return was won by Ferguson in fifty-one minutes; Gillott second by three lengths and Perden five lengths behind Gillott. Thirty-two riders started.

"The Motor: What It Is and How It Works." See "Motocycles and How to Manage Them." \$1. The Goodman Co., Box 649, New York.

SECRET OF SUCCESS

Some of the Essentials Necessary to Make Motor Bicycles "go" Commercially.

When enthusiasm forsakes a dealer, and interest and confidence in the business as well, when he gives up hope completely and stays in the trade simply because he lacks energy enough or ability to get out, it is idle to expect much from him in the way of improving matters.

This condition is chronic with many dealers. Hope no longer animates them, and they have long ceased to even try to do anything more than "hang on." Speak to them of encouraging signs, point out to them opportunities to improve their position, and they will listen listlessly, without the faintest spark of animation or real understanding—if they listen at all. The effort to arouse them is wasted. Nothing can come of it.

Take a step forward and make the appeal to a better and a larger class of dealers. They will heartily agree with everything that can be said about the desirability, nay, the necessity, for a change, a betterment. But there most of them will stop.

For it is a long step between agreeing and doing. The disposition to leave well enough—or ill enough—alone, rather than run the risk of encountering something worse, is an all too general one. The desire, even the willingness, to try experiments, to risk something, in order to get an improved condition of affairs may come of it, has well nigh vanished. Certainly, there is not a vestige left of the old time energy and enthusiasm that dared all and coped with everything, having in its lexicon no such word as "fail."

This altered feeling is shown most markedly in the reception accorded the motor bicycle. It may be reasonable, even true, to contend that the doubt—the suspicion, to put it more strongly—that formed the basis of its reception on the part of the bulk of the trade was fully warranted. The average dealer was in no position to risk much, even to gain much. He could not afford to throw himself heart and soul, with all the energy of "auld lang syne," into something, such as the motor bicycle, which might be a failure, or, at best, prove unripe. He had to hold fast to what he had.

It was with some such feeling as this in mind that he met all overtures of the motor bicycle advocates. Let it go out and get a reputation, was the reply in effect if not in words made by many members of the trade. Others gave it lukewarm support, stocking it and then letting it shift for itself. A third group, and much the smallest one, gave it intelligent backing from the start.

What daunted most dealers was the necessity for learning all about the motor bicycle. It is a case where a little learning is almost as bad as none at all. At the present time, at least, an intimate acquaintance on the part of the dealers with all the details

of construction of the motor is almost absolutely essential if the rider is to get the best results. And, as stated, this fact has been the stumbling block in the way of a majority of dealers.

It was not so in the old days. Then obstacles but served to stimulate exertion. It was only necessary that a feature demonstrate its merit for it to be pushed to a successful issue, in spite of drawbacks and imperfections that seemed almost insurmountable.

The pneumatic tire is the most complete proof of this that it is possible to obtain. When it first appeared, and even for two or three years afterward, it was about the most unpromising device that it would be possible to imagine. It possessed but one merit—that of almost perfect resiliency—but that was sufficient to enable it to overcome all of its demerits.

The secret of this extraordinary success



NEW YORK BRANCH. 214-216 WEST 47TH STREET.

lay in its reception by the trade. Had it been hostile or even lukewarm it is open to doubt whether the tire would have driven all other forms from the field. Certainly, its acceptance would have been much longer delayed, its success less complete.

Who that was in the trade in the early nineties does not remember the keen interest taken in the tire, the determination everywhere displayed to master its mysteries and conquer its vagaries?

"In 1891 I went to the League meet at Washington, taking with me a safety fitted with the old 'rag' Dunlop tires," says one dealer. "The first morning I was there it sprung a leak, and three of us worked until night over it in our room at the hotel. When we got through the room looked like a bog pen; we were tired and dirty, but triumphant; for had we not taken the inner tube out, repaired a leak, put it in again, and pasted down the dozen or so plies of fabric composing the tire?"

"But the next morning the tire was flat. Fifteen minutes' pumping inflated it, and in as many more it was soft again. Once more

the machine was taken to the room and there deposited, never to be disturbed until we went home. Then I borrowed another machine from a friendly dealer, and rode on cushion tires for the remainder of the meet."

But that dealer did not damn the pneumatic tire and all its works from that time on. Instead, he worried along with it as best he could until American tires were brought out that proved to be better.

And how the trade backed up the tire! During 1892 it was the general custom to make all repairs free of charge. Punctures were looked after as a matter of course, and the rider was practically assured that he need not bother himself about the tire during the first year of its existence. The maker and the dealer together took it on themselves to make right everything that went wrong.

The result was that the whole cycling world turned to the air tire, and then, when this had been accomplished, the wide open guarantee was withdrawn. By that time both the makers and the users knew the tire pretty well, and the trouble experienced with it was not sufficiently great to cause the guarantee withdrawal to be felt as a hardship. It was not very long after this that the tire reached a high state of efficiency, and to-day no one ever gives it a thought.

It was not markedly different with other improvements and features that made their appearance from time to time.

Whenever there was a change made it had to be backed up by the trade and learned by the public. There was no thought of sitting back and waiting for it to be perfected, in some mysterious and wholly impossible way. Instead, everybody jumped in, learned what was wrong, and made suggestions with the view of having it put to rights. This was the proper course to pursue, as events demonstrated.

It is equally true that in no other way can the motor bicycle be developed and perfected. The day may soon come when it will give no more trouble than the pedal driven bicycle does now; when the novice with only enough knowledge to manipulate the various levers can mount one and be whisked off to his destination a hundred miles away without ever giving a thought to sparking or explosion or mixture or drive. But that day is assuredly not here.

Even now a rider can mount a motor bicycle in some such fashion as this, determined to take the train or get home in a similar manner if anything goes wrong, and not come to grief. But this will not always happen, not by a great deal.

Knowledge, then, is and will be for some time to come the secret of success with the motor bicycle. The maker and the dealer, no less than the rider, should betake himself to the study of the "critter," and the more his studies are to the purpose the better results he will get. If to the knowledge thus acquired he can bring to bear a certain amount of "intuition"—that subtle faculty which will enable him to diagnose the machine instantaneously and locate the trouble without taking the time to exhaust all the possibilities—so much the better to him.

SOLAR LAMPS

SHOW THE WAY

A FEW TRUTHS.

ALWAYS SATISFY because practical, simple and safe.
NOT AN EXPERIMENT but old, tried and true.
A HALF-MILLION IN USE and some five years old.
A SOLAR SALE makes a satisfied customer.

The Solar Oil Cycle Lamp should occupy a prominent place in your 1902 catalogue. It is a practical, moderate priced oil lamp.

Our 1902 catalogue and electros and prices of all our specialties are now ready.

THE BADGER BRASS MFG. COMPANY, Kenosha, Wis.

C. B. BARKER & CO., Ltd.

93 Reade Street,
NEW YORK.

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123-125 Tribune Building, - New York City

ODDS AND ENDS.

In France all roads are of uniform widths—25, 33, 40 and 50 feet, respectively.

The so-called "championships of the world" will this year occur in Rome, Italy.

One of the English manufacturers is still listing a chain geared bicycle at \$150. He terms it a "special," of course. His courage is as rare as his price.

The Lyons (France) Bicycle Club has come into a legacy of \$20,000, willed by an enthusiastic officer. The other heirs are, however, contesting the bequest.

Jaquelin, the French champion, who sought to become a crack chauffeur, has cried quits. He has returned to the bicycle and means to remain true to it.

The promoters of the English automobile show to be held in London February 14 to 22 are wise in their generation. They have just added a special section for motor bicycles.

Major Taylor has finally signed to go abroad. He will race in France and Germany during May and June, returning to this country in time for the National Circuit.

Michael will return to France in February without Tom Eck. Michael goes under the management of the Auto-Velo, the rival paper to that which takes Taylor to France.

Jimmy Michael evidently believes in the "try, try again" adage. Having tried and failed on several occasions, he is once more bent on becoming a jockey. Some men never know when they are well off.

According to Cycling, ping pong has taken the place of billiards and whist as a winter amusement of the English cycling clubs. Ping pong, it may be necessary to add, is a species of indoor tennis.

The 1902 issue of that long established institution, the Columbia pad calendar, is out. To say that it is fully up to the standard of its predecessors is to pay it the highest compliment that can be paid.

There is small excuse for scepticism regarding spring seatposts. The Berkey Spring Seatpost Co., of Grand Rapids, Mich., offer to send one of their posts on thirty days' trial. If it proves unsatisfactory it may be returned at their expense.

People who believe that buglers, color bearers, etc., are relics of the past should undeceive themselves. One of New York's negro cycling clubs has just elected a "first bugler" and a "second bugler," likewise a "first color bearer" and a second one.

One of the most notable performances yet credited to the motor bicycle was accomplished by M. De Guichard on a 2 horsepower machine by the big firm of Clement, Paris. He rode from Paris to Rome, a dis-

tance of 954½ miles, in 4 days 22 hours 47 minutes. The ride was undertaken to see what the machine could do in bad weather, and, considering the rain which fell, and the snow covered passes of the Alps which had to be negotiated, the performance ranks as a remarkable one.

The "rebels" of the Century Road Club, the Century Road Club Association, New York, have elected the following officers for 1902: President, C. P. Staubach; vice-president, D. H. Lodge; corresponding secretary, E. Lee Ferguson; recording secretary, L. A. Goettler; treasurer, Paul Thomas; captain, J. W. Gull; first lieutenant, Charles Nerent; second lieutenant, S. G. Major; color bearers, E. Palmer and H. S. Smith; buglers, A. Neff and A. E. Due; board of directors, John T. Wall, John Cornish, R. J. Lyle, R. A. Van Dyke and Guy S. Rowell.

The Bicycling World's urging has commenced to bear fruit. The immediate result is the organization of the Patchogue Wheelmen at Patchogue, N. Y., with a membership of thirty-five and these officers: C. W. Coleman, president; Joseph Ritchie, vice-president; Arthur Green, secretary, and F. R. Goldsmith, treasurer. Mr. Coleman, the president, is the Patchogue agent for the Orient, Tribune and Pierce bicycles, and it is largely to his efforts that the formation of the club is due. Clubrooms have been secured, and meetings will be held twice each month. Runs and races will be held in season, and "everything possible be done to increase interest in cycling," as Mr. Coleman puts it.

"Cycling headache" is the newest ailment to be "discovered" by the wise men across the pond. It evolved within the skull of a missionary from the Far East. He suffered as from neuralgia, and consulted many doctors. One treated the headaches as rheumatic; another designated the complaint "hermicerania," and as the pains sometimes began in the teeth two of these were extracted! All without result. An ophthalmic surgeon ascertained he was in the habit of leaning forward, and in looking forward would necessarily strain the elevator muscles. This was the cause of the headache! Just as "academy headache" is caused by looking at pictures above the line. The "easy remedy," the London Lancet points out, is for cyclists to "sit up" and keep their gaze below the horizontal line.

With the idea of making an early beginning, the Irvington-Milburn Road Racing Association met on Monday night and mapped out roughly the 1902 Irvington-Milburn 25-mile handicap road race.

The classic event will be run on Decoration Day, May 30, of course. Already the prize list is beginning to take shape, and it has been decided to offer two, and probably three, motor bicycles to head the list. In addition to the individual prizes awarded in accordance with custom, club interest will be stimulated by offering several cups and other

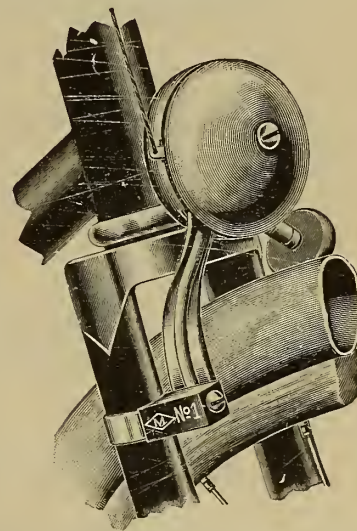
prizes of a special character. As far as these have been decided upon they will be awarded to whichever of the three associations supporting the race—the Associated Cycling Clubs of New York, the Associated Cycling Clubs of Long Island and the Century Road Club of America—shall have the largest number of entries and prize winners in the race.

The race will be in charge of E. L. Blauvelt, 150 Center avenue, Newark, N. J., secretary-treasurer of the association, assisted by the following committee: Carl Von Lengerke, L. J. Wyckoff, F. C. Cornish, Louis N. Thorne, George W. Lawrence, B. F. McDaniel, W. D. Melcher, F. M. Dampman, W. A. Drabble, R. G. Betts and S. W. Merrihew.

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Does What a Bicycle Bell Should Do.

Gives a loud, continuous, unmistakable,
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Few parts; no spring in striking mechanism;
cannot rattle; acts instantly.

Can be operated on either front or rear
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We don't care how many people know that we build Spring Seat Posts and Expanders exclusively, and that hustling makers of Bicycles and Motor Cycles are giving BERKEY SPRING SEAT POSTS as an option on their 1902 wheels. Insist upon it.

All leading jobbers catalogue it, too.

Thousands of satisfied riders using them all over the world. Have you seen our 1902 catalogue, just out? Will be pleased to mail you one.

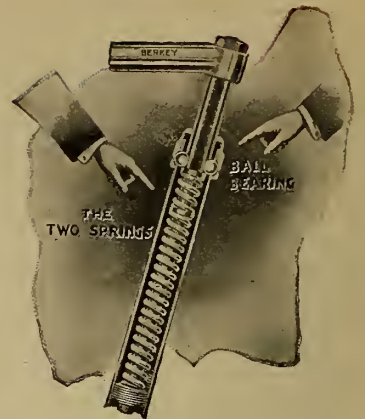
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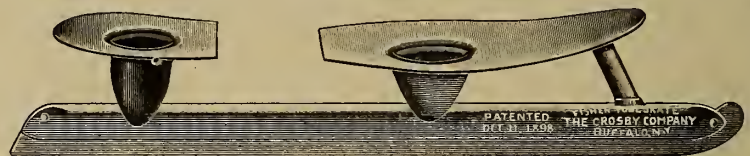
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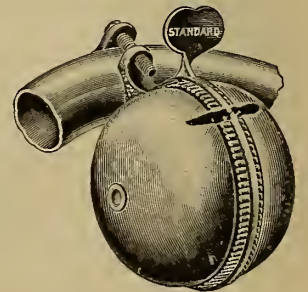
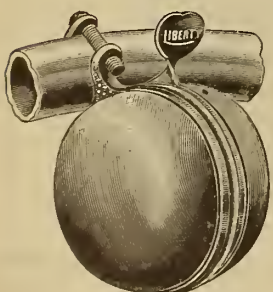
Makers: **THE CROSBY COMPANY, Buffalo, N. Y.****“LIBERTY” CHIMES** BICYCLE and MOTOR CYCLE BELLS

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pre-eminent everywhere.

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PURCHASERS.

LIBERTY BELL CO., Bristol, Conn.

Bending of Handle-Bars.

While rosin and even lead are often used for filling tubes ready for bending into handle bars, some dealers and repairers prefer sand for this purpose.

The packing material which I should recommend is fine silver sand, the finer the better, says one of these. This should be carefully sifted through a very fine mesh sieve. Any lumps may cause "kinking" on the inside of the bend. The sand should be dried perfectly dry, so that there is not a particle of moisture in it. This can very well be done by spreading it out on a disused tea tray or other flat receptacle and letting it lay on the brazing hearth or smith forge.

It should be kept in a tin can, along with a tin scoop and a tin funnel, for purposes of filling the tubes. The can should have a good fitting lid, and should be kept in a dry place, as the sand will absorb moisture if any be about. It is very dangerous to heat sand packed tubes with tightly fitting plugs if there is any moisture in the sand. This fact should be carefully remembered, otherwise a very serious accident may result, often causing loss of sight or very great damage to the eyes of the operator, or any one who may be at hand when the explosion takes place.

In filling the tube one plug must be tightly driven in and the tube held vertically. The sand may now be poured in through the funnel by means of the tin scoop. After about three inches of the tube has been filled with

sand it should be rammed down as tightly as possible. The ramming can best be done with a length of round Bessemer rod of a diameter just under the diameter of the inside of the tube. This rod should be about three feet long, and should be jumped up and down in the tube much in the same manner as a ramrod is jumped in the muzzle of a muzzle loading gun.

This operation of ramming down the sand is a most important one, and should be very thoroughly carried out, the ramming being repeated for each three inches of the tube filled with sand.

When the tube is nearly filled the top plug should be tried, and if this comes in contact with the sand at about the same time as it becomes a fit in the tube it may be driven home by heavy blows of the hammer, thus effectually closing up the tube and giving the final compression to the sand.

Still Sticks to Saddles.

That famous English inventor, John Harrington, who will always be remembered in connection with the cradle spring for saddles which bore his name, has invented another saddle for the modern safety bicycle. It is said to possess many good features.

"Defects (in motorcycles) and How to Remedy Them." See "Motorcycles and How to Manage Them." \$1. The Goodman Co., Box 649, New York.

What Efficiency is.

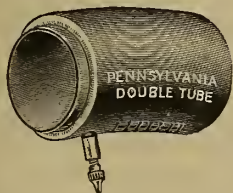
Efficiency may be said to be the ability of any machine or appliance to perform the task for which it is intended, with the highest possible degree of satisfaction and economy of labor. As applied to cycles, it may be taken to mean the attainment of the best possible results with the least expenditure of force; or, in other words, the direct utilization of the maximum percentage of the energy applied, with the minimum percentage of waste. This being the great end to which the maker's efforts should be directed, lightness can only be considered as one of the many contributing factors toward this end, and, moreover, a quality which, if carried beyond the point at which the efficiency and reliability of a machine are threatened, becomes a distinct fault instead of a virtue.

The next six day "grind" is scheduled to take place at the 7th Regiment Armory, Philadelphia, beginning January 13. A 12 lap track, 29 feet wide, will be built, and it will form an almost perfect circle. Nearly all the men who competed at the recent race in this city are said to have offered to enter.

Shoes Instead of Cycles.

Moreau Brothers, of East Brookfield, Mass., who formerly manufactured bicycles, have replaced their bicycle machinery with that suitable for the manufacture of shoe counters.

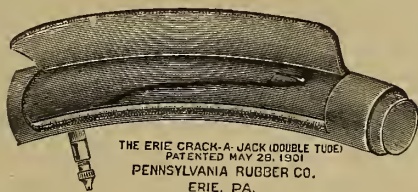
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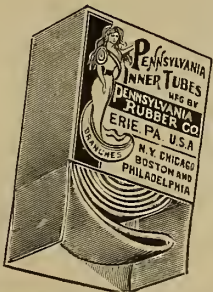


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SYRACUSE, NEW YORK

Screw Threads and Standards.

The outside diameter, the pitch²(that is, the distance between the centres of two adjacent turns) and the shape of the section of the thread are the three elements necessary to completely specify a screw, says a British maker, discussing the new thread adopted by the Cycle Engineers' Institute.

For transmitting motion the square thread, or a type approximate thereto, is best, since the rubbing surfaces are nearly at right angles to the direction of the motion, and friction is thereby reduced to a minimum. For a bolt and nut fastening a triangular screw thread is preferable for many reasons. In the first place, a triangular thread is not so likely to be stripped as a square thread of the same pitch; secondly, the sloping surface of the triangular thread gives a wedging action, so that the friction grip obtained is greater than that got by a square threaded screw of the same pitch.

It is not practicable to make the thread exactly triangular in section, as this would leave a sharp angular ridge or cutting edge that might injure any one having to handle the screw, while the sharp corner at the bottom of the thread would weaken the bolt unduly. In all so-called triangular threads the angular corners at the top and bottom of the thread are truncated.

In the Whitworth system (the first standard system of screw threads to be adopted, and still in universal use in Britain for general engineering purposes) the angle of the thread is 55 degrees, and one-sixteenth of the height of the triangle is rounded off at top and bottom. In the Sellers screw thread (the American standard system) the angle is 60 degrees, while a depth equal to one-eighth of the pitch is taken off square at the top and bottom of the thread. The C. E. I. thread has an angle of 60 degrees, and a distance equal to one-sixth part of the pitch is rounded off at top and bottom.

How to Operate it.

English "as she is spoke" by the Teutons is sometimes amusing, even when meant in sober earnestness. A German firm which manufactures motor bicycles sends out these instructions with each one:

- "1. Ride as usual in fair speed.
- "2. See that the compression tap is open.
- "3. Switch handle on.
- "4. Press little propelling wheel on back tire gently—the motor will start, if not, find right carburation by turning very slowly carburation tap.
- "5. When motor has started, shut the compression tap.
- "6. To stop, snitch handle off."

This is the whole thing in a nutshell. The closing injunction, in particular, is impressive.

"Motocycles and How to Manage Them"; 126 pages, 41 illustrations; cloth bound. \$1. The Goodman Co., Box 649, New York. ***

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YOU ALL KNOW IT'S THE BEST.

Why try to fool yourself or your customers with weak imitations?

PERSONS MFG. COMPANY,

CHARLES A. PERSONS, President,

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"The Big Chief of the Hendee Tribe"



That about describes the position
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Indian Motor Bicycle

as it is but the leader of our line. We have other Indians—pedal-propelled Indians at \$25.00, \$30.00 and \$35.00 and like the "Big Chief," they are of the kind that make easy the capture of customers.

If you desire to

Make the Scalp Locks Stand

on the heads of your rivals, the Indian Agency will help you do it.

HENDEE MANUFACTURING COMPANY, Springfield, Mass.

The Week's Patents.

689,451. Bicycle Support or Rest. David H. Barry, Newport, R. I. Filed May 16, 1901. Serial No. 60,447. (No model.)

Claim.—1. A bicycle support or rest, comprising two clamping members, arms extending in opposite directions carried by each of said members, a pair of diverging arms or plates pivotally connected to said members, a curved segmental arm connected to each plate, and adjustably secured to the member, and an adjustable leg or plate connected to each of said diverging arms or plates to which the segmental arm is connected.

689,467. Bicycle Frame. Joseph S. Dikeman, Torrington, Conn., assignor of one-half to Charles S. Dikeman, Torrington, Conn. Filed June 22, 1901. Serial No. 65,655. (No model.)

Claim.—1. In a bicycle frame the combination with the main upright, of two sleeves disposed in line with each other, one of said sleeves secured to the top bar of the frame and said upright and the other sleeve removable from said upright and secured to the rear fork or stay.

689,485. Brake for Bicycles or Other Like Vehicles. William B. Govett, Brisbane, Queensland, Filed Dec. 20, 1900. Serial No. 40,603. (No model.)

Claim.—1. In improvements in brakes for bicycles and other like vehicles, the bell crank H, the top arm slotted out to a chisel point, acting as a pawl between two cheeks and provided with a shoulder, the lower arm composed of two pieces of spring steel and provided with a stud and a brake and connections operated by said bell crank lever as and for the purpose set forth and as herein described.

689,493. Rifle-holding Saddle. John Jarvis, Kensington, England. Filed Jan. 14, 1901. Serial No. 43,206. (No model.)

Claim.—1. The herein-described means for enabling a rifle or similar article to be carried on a cycle, same comprising a saddle divided longitudinally into two parts pivoted together, the fore and after ends thereof being formed as jaws adapted to receive and grip the rifle or similar article to be carried, substantially as herein described.

689,599. Velocipede. William H. Snow, San Francisco, Cal. Filed Aug. 12, 1901. Serial No. 71,744. (No model.)

Claim.—1. A velocipede comprising a platform on wheels, having rectangular openings extending longitudinally and parallel with each other; footpieces fitted to slide in said openings and provided with rollers which are adapted to travel on the ground; guides for the footpieces on the sides of the platform-openings; and coiled springs attached to the footpieces and to the platform.

689,622. Compound for Stopping Punctures in Pneumatic Tires. Adolph J. Otto and Thomas J. Brennan, Pawtucket, R. I. Filed May 29, 1901. Serial No. 62,390. (No specimens.)

Claim.—A compound for stopping tire punctures, which consists of aluminum, ammonia, plaster-of-paris, dissolved soap and water in about the proportions set forth.

689,646. Bicycle Support. Lindoro de Intinis, St. Louis, Mo. Filed June 22, 1901. Serial No. 65,712. (No model.)

Claim.—A bicycle support comprising the side members or legs adapted to be secured at their inner ends to the front axle of a bicycle, the outer ends of said legs being connected to a square frame, a footpiece hinged to each side of the frame, and a spring sur-

rounding each side of the frame and bearing upon the footpiece adapted to normally throw the same away from the leg or supporting member, and a loop adapted to be arranged upon the bicycle for the purpose of retaining the spring feet on the support, substantially as set forth.

689,747. Wax Burning Lamp. Arthur J. Putsall and Herbert D. Jackson, Birmingham, England. Filed July 12, 1901. Serial No. 68,052. (No model.)

Claim.—A wax lamp comprising a body, a base removable therefrom, a reservoir, a perforated vertically disposed diaphragm in said reservoir forming two compartments, one of which is designed for the reception of a wax cake and the other of which has a passage leading therefrom, and a burner located below, and in proximity to said reservoir, and comprising a burner receptacle into which said passage leads and a wick extending down to a point adjacent to the lower end of said receptacle, the said reservoir and burner being carried by said base and adapted to be removed from said body therewith.

689,762. Brake. Frederick C. Taylor, Chicago, Ill. Filed March 7, 1901. Serial No. 50,182. (No model.)

Claim.—1. In a brake, the combination of a rotatable axle having a sleeve loosely journaled thereon; a wheel loosely journaled on said axle and having a flange overlapping said sleeve; a coil spring having one end secured to said sleeve and the other end secured to said flange; a clutch connecting said sleeve and axle; an independent clutch connecting said flange and axle; and means for stopping either said sleeve or said wheel against rotation in either direction, during the rotation of said axle in either direction.

689,795. Bicycle Driving Mechanism. James S. Copeland, Hartford, Conn., assignor to American Bicycle Co., Jersey City, N. J., and New York, N. Y., a corporation of New Jersey. Filed March 29, 1899. Serial No. 710,907. (No model.)

Claim.—1. In a vehicle driving mechanism, in combination, a driving shaft bracket, a cylindrical bushing adjustably mounted within said bracket and extending beyond its socket at both ends, a lock nut screwed on to one end of the bushing, a ball supporting case secured to the other end of the bushing, a driving shaft located within the bushing, ball bearings between the shaft and the inner surface of the bushing, a bevel gear wheel secured to the shaft and having an undercut edge forming a cone, and ball bearings located between said undercut cone and the case on the outside of the bushing.

689,819. Bicycle. Charles L. Horack, Brooklyn, N. Y. Filed May 27, 1896. Renewed April 23, 1901. Serial No. 57,159. (No model.)

Claim.—1. In a bicycle, the combination with its frame, of the pedal shaft, the pedals, the geared pedal wheel, an independent shaft, a pinion on said shaft and in interior engagement with the pedal wheel, a power transmitting device between the shaft of the pinion and the axle of the driving wheel, and means for sliding said pinion along its axle.

TRADEMARKS.

37,516. Polishes for Metal, Wood, and Enamel. Buffalo Specialty Mfg. Co., Buffalo, N. Y. Filed Sept. 23, 1901.

Essential feature.—The words "Liquid Veneer." Used since July 1, 1901.

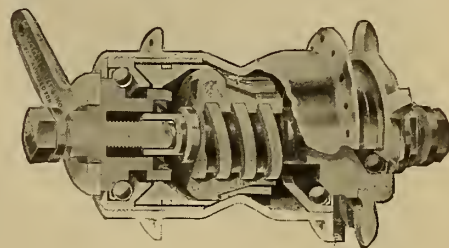
37,517. Oils and Lubricants, Except Lubricating Oils, Tire Fluids and Cement. James S. Longhurst, jr., Brooklyn, N. Y. Filed Aug. 16, 1901.

Essential feature.—The representation of an elephant. Used since April 10, 1901.

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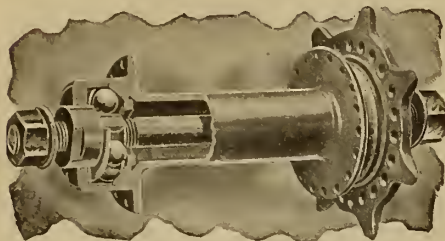
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Slow leaks in a tire, according to the Hartford (Conn.) Rubber Works, may often be located in the valve. A valve becomes clogged with a particle of some foreign matter, which prevents the plunger from working freely. In such cases, and in fact as often as the tire is inflated, it is advisable to work the plunger of the valve freely with the little projector on the valve cap. A drop of oil (not more) may often be necessary for the proper working.

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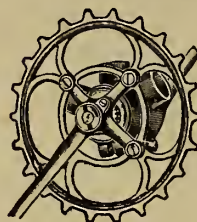


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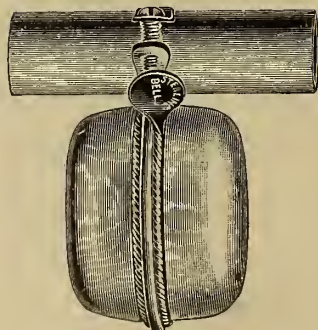
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The Bicycling World

AND MOTOCYCLE REVIEW.

In which is incorporated "The Wheel and Cycling Trade Review" and the "American Cyclist."

Volume XLIV.

New York, U. S. A., Thursday, January 9, 1902.

No. 15

JOBBER GET TOGETHER

As a Result There are now but two Where Four Before Existed.

Two notable shifts in the jobbing trade have, like Lochinvar, "come out of the West" within the last week, one from Denver, the other from Los Angeles.

In the former E. T. Weiant and the Excelsior Supply Co. are the parties concerned. They have amalgamated under the title Consolidated Supply Co., with Mr. Weiant as treasurer and general manager, and George T. Robie, manager of the Excelsior, as president, the company having been incorporated with a capital stock of \$30,000, all paid in. Paul P. Pratt, secretary, is the other officer of the new corporation. The business will be carried on at the former Weiant address, 1609-1611 Glenarm street.

The Los Angeles deal comprises the purchase entire of the E. H. Crippen Cycle and Supply Co. by the W. H. Hoegee Co., of the same city.

Coaster Brake Trouble Settled.

The friction and litigation involving the Wyoma and E. Z. coaster-brakes has been amicably settled. As a result the makers of the Wyoma, the Reading (Pa.) Automobile and Gear Co., now control and will manufacture the E. Z., which at one time they threatened to antagonize. The owner of the patent, E. E. Ziegler, of Philadelphia, Pa., will handle the brakes in that city and in Philadelphia County.

In referring to the matter the Reading people say that with the six patents which they now possess they "cover fully all features and constructions of coaster-brakes"—a remark that time may or may not prove significant.

Tires to go up.

While nothing definite may be stated at this time, there is a well defined report that the price of the cheaper tires is due for a substantial advance; it is probably growing out of the recent getting-together of the Tillinghast licensees, although the Tillinghast people themselves prefer to "look wise and say nothing."

End of the Cycle Age.

The Cycle Age, of Chicago, is no more. The financial troubles which have for some time worried its publishers have forced the decision, and the paper has been discontinued.

Like all of the cycling publications save the Bicycling World, the Cycle Age stampered to the automobile industry, and sought to mix cycles and automobiles in a proportion of about one to ten; the mixture was cleverly disguised by the use of a cover entitled "Cycle Age" on the papers circulated in the cycle trade, and another titled "Motor Age" on those mailed to the automobile people, the contents of both publications being identical. The mixture failed to impart strength, however, and now the cycling cloak has been discarded and only the Motor Age remains, its continuance being subject to the direction of the larger creditors, who are now practically in charge.

What the Attaching Creditors Want.

There is scheduled to be a hearing in the United States Circuit Court at New Haven, Conn., this week, before Judge Townsend, relative to the affairs of the Worcester Cycle Mfg. Co., of Middletown, Conn., regarding the rights of certain attaching creditors who claim some of the property in payment of their indebtedness.

The trustee in insolvency, appointed in Connecticut by the Probate Court, claims that the attachments were dissolved by the appointment of a receiver and that the attachment liens have been otherwise lost. He also asserts that the property, while being free from the claims of certain creditors, should be held for the payment, pro rata, of all the creditors.

Changes in Grips and Pedals.

On 1902 Columbias rubber pedals are the standard equipment—a return to earlier principles that would have created at least a mild furor but a few years since. Leather handle bar grips have also been substituted for cork ones.

Githens Joins G. and J.

H. A. Githens has joined the staff of the G. & J. Tire Co. He is no stranger to the duties, having sold the tire when he was identified also with the Rambler bicycles.

GUNNING FOR GRIDLEY

Syracuse Man's Creditors Attempt to Upset his "Little Family Arrangement."

Following the efforts to wind up the Olive Wheel Co., of Syracuse, N. Y., the wheels are in motion to throw its president, F. W. Gridley, into bankruptcy. The petition to that end was filed in the United States Court at Utica on Saturday last.

The allegations lend color to the reports that Gridley was resorting to sharp practices. Four acts of bankruptcy are alleged, viz., the giving of a mortgage on the Gridley block to his mother, Mrs. Helen M. Gridley; the preferring of his mother by giving this mortgage, in deeding the block to his wife, Mrs. Edith M. Gridley, and in not discharging an execution under which his gasoline launch Merle was levied on by the Sheriff. The moving creditors are Barber Brothers, of Syracuse; Delancy Parrish, of New York; the Palm-Fechteler Co., of New York, and the B. F. Goodrich Co., of Akron, Ohio.

Leacock Establishes Himself.

R. J. Leacock, whose resignation as the buyer for the bicycle department of the Norvall-Shapleigh Hardware Co., St. Louis, Mo., excited no little surprise, has established himself in that city as the R. J. Leacock Supply Co., succeeding the Leacock-Woody Supply Co., which had been announced but a few days before. Preparations are making to incorporate the new company, of which Mr. Leacock will retain the controlling interest. While he will not confine himself to bicycles and bicycle supplies, those goods will feature prominently in his business. He will maintain a retail store as well as a jobbing warehouse.

Narrowing the Guarantee.

Tires no longer constitute the only equipment not covered by the bicycle makers' guarantees. Coaster-brakes, saddles and pedals, and in one instance handle bars, are on the "excepted" list—that is to say, purchasers are referred to the makers of the particular articles when it is desired that guarantees be "made good."

HASTE MADE WASTE

The Story of a Battery—And the Maker Gets the Blame.

Experience is usually dearly bought, but there is only one way to acquire it, and that is to make the purchase at the market rate. Sometimes this is high, as the following story, the truth of which is vouched for, will attest:

They had been talking of batteries and their vagaries, and speculating whether the battery millennium would ever come—that happy time when batteries would cease to run down, short circuit and perform other antics in the manner in which only they can perform them. And that led to the swapping of experiences.

"Do you remember, Persons, the batteries you threw away down at Worcester last summer?" asked "Happy Days" Pitman of C. A. Persons, who had for the time being ceased to wrestle with the problem of making the output of Royal motor bicycles equal to the demand of clamoring claimants.

"Do I remember it? Well, I should say I did!" was the reply. "It was raining cats and dogs, and the tricycle came to a sudden stop after a few warning slows. I got off and made an examination, while the rain came down and saturated every article of clothing I had on. I tried everything—little things first, big ones afterward—but entirely without result, except that it became certain that it was the ignition that was at fault. So, after working for two hours or more, I took out and threw away the batteries, putting in their place a new set I happened to have along. Then I started off, and the machine went all right."

"You may have been short circuited, but there was nothing the matter with your batteries," returned Pitman. "Lud Havener came along the next day and saw them lying by the road. He picked them up and took them to his shop. There he tested them and found that they were all right. So the next time he needed to renew his batteries he put in yours, and for all I know he may be riding them yet."

"That was one on me, for sure," said Persons. "But it wasn't the only time I got fooled on batteries. They cost me a pretty penny before I cut my eyeteeth."

"One time, I remember, my batteries got to working badly, and I jumped to the conclusion that they were worn out. So I had the people at the automobile storage place put a new set in for me. That night I started out for a ride and got as far as Forty-second street when the machine stopped dead. I investigated and found that I could get no spark. So I telephoned to the storage place for a man with my old batteries. He came, and between us we made the change. But that night's ride cost me the best part of \$10."

"It is astonishing, though, how careless one will be with batteries, even after he has

used them long enough to know better. Already I have caught myself two or three times leaving the plug in my Royal, once for over two hours. How I did feel like kicking myself for it!"

"Yes, and when riders do such things and their batteries run down," interposed Pitman, "they throw the blame on the poor battery makers. It's like the 'wheel-broke-down-on-a-smooth-road' story of the early bicycle days."

Brought Them Good Business.

"We think it no more than right," say Davis, Allen & Co., London, in a letter to the *Bicycling World*, "to acquaint you with the fact that the Goodyear advertisements in your export editions did us a lot of good over here. We received no end of correspondence and inquiries from all over Europe, all of which we have since followed up by personal visits, a great many of them resulting in permanent business. Since that time and in connection with the Goodyear people we have formed here an entirely separate company, and are running the entire business as a separate concern, under the name The Goodyear Tyre & Rubber Co. of London, England."

Warwick Settlement Drawing Near.

It is expected that a final dividend will be paid to the creditors of the Warwick Cycle Mfg. Co. some time next month.

There is now in the hands of the assignees something over \$10,000 to be distributed, the bulk of this coming into their hands as a result of the settlement of their suit against the Second National Bank of Springfield.

At a meeting of the Insolvency Court at Springfield last week a claim of C. A. Rossburg, of Philadelphia, was allowed, and the assignees were authorized to sell the outstanding accounts at public auction or private sale. The case was then adjourned until February 12 for the final meeting.

Admiral Revises Prices.

Since becoming established in a factory of their own in Marysville, Ohio, the Admiral Lamp Co. have been enabled to effect economies such as now permit of a revision of their quotations. The figures cannot but prove of prime interest to the trade, and should do much to further the sale of the lamp, already one of the most salable articles on the market. The dealer who cannot make the most of such a lamp as the Admiral, which permits the rider to use either kerosene or carbide, as his fancy dictates, is lacking the qualities that go to make up a salesman.

Australia Offers an Opportunity.

An Australian suggests that the new tariff makes an opportunity for a big parts and fittings manufacturer to set himself up in the colony as an assembler of bicycles. He believes it will prove a paying venture, the scarcity of water and fodder for horses making the utility of the bicycle so apparent that its use is certain to increase.

WAYS OF PROVIDENCE

Whirligig of Time Made Bicycle Room Unnecessary—But it is Built.

The immutability of undertakings fathered by governments—national or State—is strikingly shown in the Rhode Island State House, now approaching completion at Providence.

Many years have passed since the plans were drawn, and almost as many millions have been spent on the building. Favored with a magnificent and commanding site—on one of the many hills that give the town its uplifted appearance—the edifice is a most notable one. On a fine day, with the sun shining full on its white walls and glittering dome, it presents a splendid appearance, and is rightly considered one of the "show places" of the town.

Away back in the nineties, when the building was planned, it was the avowed purpose to make it a model of completeness. This being so, a bicycle room was an essential feature of the plans—for was the town not swarming with devotees of the two-wheeler, whom even the long and toilsome climb to the State House failed to daunt? And did they not dispose their machines on the grass, lean them against half-finished walls, and, in short, bestow them wherever it seemed handiest? Of a truth they did, and there was nothing to do but provide accommodation for them in large numbers.

But the years passed and the times changed. The bicycle room, being in the basement, was one of the last places touched. Consequently, the boom had come, the slump had succeeded it, and had in turn been followed by a sustained depression. Cycling was no longer pursued with such ardor as of yore, and the cycle itself had become very largely a business vehicle.

When it came time to finish the bicycle room, therefore, lo! there appeared to be little use for it. The number of machines ridden to the State House and left there, whether for but a few minutes or for a number of hours, was very small. Of the State government—the Governor, the legislators, etc.—none, of the clerks, messengers and other attachés, few, rode to the State House on bicycles. The trolley car was an easier method of transportation, and had become exceedingly popular.

But the fact that there were few bicycles to dispose of in the building did not prevent the finishing of the bicycle room. Such a room had been decreed, it appeared on the plans, and these plans, like the laws of the Medes and Persians, could not be changed.

As a result the room is being proceeded with. It is a large room, and will contain several hundred stands for bicycles. These are now being erected, and in a short time will be completed and ready for occupancy.

The optimist will rejoice at this adher-

WAYS THAT DIFFER

How the Dealer and the Rider Approached the Motor Bicycle.

"Is it any wonder that the motor bicycle did not make greater progress during the last season, when the treatment it received at the hands of some of its friends is borne in mind?" asked a well known tradesman a short time ago.

"I have in mind a big dealer who started in to sell motor bicycles, and who thought he would be able to make a great success of them. One hundred machines was the lowest estimate he would think of placing on his season's sales. He would not have been greatly surprised had this number been doubled, so confident was he at the start. But when the season came to an end he found that his actual sales totalled just about half a dozen; and he was not certain that he might not count himself lucky to be able to place the number so high.

"The fault was almost entirely his own, and yet it is impossible to convince him of this. He may grudgingly admit that some of the fault was his, but the major part of his ill success he really thinks was caused by circumstances entirely beyond his control. And this in spite of the fact that he was given the names of over two hundred people who were much interested in motor bicycles, and needed but little urging to become buyers.

"But, as I have said, the trouble lay with the dealer and his employees. They never learned how to take care of and look after a motor bicycle. No less than seven times during the season were they beaten to a standstill by it. It went wrong on these occasions, and try as they might they were never able to locate the trouble and remedy it. Each time, as it turned out, the trouble was a trivial one or due to some neglect or oversight—an inefficient mixture, sooty sparking plug, a run down battery, due to a failure to take out the connecting plug, or something of that kind.

"Now, if they had taken that motor bicycle and ridden it, eaten and slept with it, as it were, learned its peculiarities and mastered the problems it presented, there would have been no such inability to locate the weak point.

"But they did not do this, and a very large proportion of the troubles experienced by other dealers throughout the country is traceable to the same failure to master the motor. Why, even the rider soon learns to take care of the little troubles—and they constitute three-quarters of all those afflicting him. He isn't stumped if something goes wrong and the motor stops. He tries a dozen different things, none of which take him more than a minute or two, and the chances are that he will put his hand on the difficulty and have it set to rights in a jiffy.

"Why, I had a case of a rider whom I put on a motor bicycle, and sent him off for a twenty-five mile ride in the country when he had never ridden two miles all told on such a machine. I thought he was taking chances, and so did he, but he said he wanted to see what would happen, and so I let him go.

"He was back in about a couple of hours, perfectly delighted with his ride and the machine. At first I thought his trip had been without incident, but he soon undeceived me.

"'Everything went all right,' he said, 'until I got about three miles out. Then, on striking a pretty good grade, the machine first slowed down, and then would have stopped if I had not pedalled until I got to the top. Reaching the level, it went along again all right. But upon tackling the next hill it was even worse, and I had to pedal up it unaided by the motor.

"'At the top I got off, determined to investigate. The motor seemed to work all right, and that was the hopeful sign. It occurred to me, therefore, that there might be something wrong with the driving belt. So I examined that, and, sure enough, there was the trouble. It was just tight enough to drive on the level, but when the resistance became greater on the hills it slipped. I tightened it, and it worked like a charm.'

"When I heard this," continued the tradesman, "I felt like congratulating him on this exhibition of common sense. It was rare, and I could not help contrasting it with that of the dealer referred to."

Recent Incorporations.

Sioux City, Ia.—J. P. Thompson Double Roller and Ball Bearing Co., with \$15,000,000 capital. Incorporators, John P. Thompson, Almon W. Bulkley and U. S. G. Cherry.

Milwaukee, Wis.—The Merkel Mfg. Co., capital \$32,000, to manufacture motorcycles and gas engines. Incorporators, J. F. Merkel, Otto C. Uehling and Theodore Jonas.

Hartford, Conn.—Gillette Brothers, with \$10,000 capital, to manufacture, buy and sell bicycles, automobiles, motorcycles and all kinds of sporting goods. Incorporators, C. Howard Gillette, of Orange, N. J., and Harry C. Gillette and Norman Gillette, of Hartford, Conn.

Are now Reaching out.

One of the minor concerns that is experiencing a decided improvement in business is the Lake City Cycle Works, Dunkirk, N. Y. The concern, in addition to doing a considerable repair business, has for a couple of years been building bicycles for the local trade. A little less than one hundred machines were turned out in 1901, but for the present year this number will be materially increased. Preparations are being made to build 250 machines for home consumption, and three times that number for outside trade. Work was started on these machines this week, and orders have been received from Rochester, Pittsburg, Toledo, Buffalo and other nearby cities and towns.

ance to the original plan of building. He will see, with the eyes of faith, a renaissance of his favorite pastime, witness the return swing of the pendulum that will once more make cycling as a pastime popular and fill the new room to overflowing with cycles.

Of these, a considerable number will, of course, be motor bicycles. With such machines, even the portly and dignified legislators can laugh at the capital hill and welcome the buffeting winds that they formerly dreaded.

Chile is Strict.

Exporters of wares to Chili should pay very close attention to the customs requirements of that country. These regulations require that every package of wares imported into Chili shall have clearly marked thereon its weight (a statement in writing is not sufficient), and the weight thus given must under no circumstances be more than 10 per cent less than that ascertained by weighing at the time of entry. If the weight is found to have been correctly given, the wares are passed through the custom house with great promptness—otherwise there is apt to be much delay and inconvenience. If the weight is found to have been incorrectly stated, or if the contents of the package differ from the statements made in the customs declaration, the wares are subject to confiscation. The importer's declaration is based upon the invoice and the bill of lading. If the statements in these papers are incorrect, the customs declaration must also be incorrect; consequently exporters cannot be too careful in preparing such documents.

Santa up to the Minute.

That enterprising English firm, Gamage, Ltd., is nothing if not up to date. During the recent holidays they created somewhat of a sensation by mounting Santa Claus in their window on a motor bicycle. The venerable gentleman and his bicycle were covered with snow, frost and presents, and altogether the effect was striking and attracted crowds of onlookers.

Motor Bicycles to Hire.

It takes a courageous man to think of hiring motor bicycles at this stage of the game. Yet a London concern is said to have entered the field, and announces that it will hire such machines at 10 shillings—\$2.50—per day. This is less than the ordinary bicycle used to bring when given over to the tender mercies of the hiring class.

Winter Storage Without Charge.

In one of the cities in upper New York in which competition is unduly keen one of the dealers is offering to store bicycles free during the winter. He figures that he will get his reward in repairs, overhauls and coaster brake equipments when the riding season opens.

"Motocycles and How to Manage Them"; 126 pages, 41 illustrations; cloth bound. \$1. The Goodman Co., Box 649, New York. ***

NATIONAL BICYCLES

Boulder, Colo.,

November 4, 1901.

We are much pleased with
Nationals. So are the riders.

THE CHAINLESS IS PERFECTION.

We are going to make them the leaders in this city for 1902.

Yours truly,

NEIHEISEL BROS.

"The good name that
endures forever is count-
ing for more than it ever
counted before."

—*Bicycling World*, Dec. 12, 1901.

NATIONAL
CYCLE MFG. CO.
BAY CITY MICH.

Equal them—If you can.

Investigate the merits of other tires—find out what they are made
of, how they are made and how much they cost. Then look up the

FISK TIRE.

It will stand investigation. It will stand comparison. It will stand
use. Why? Because it is made right—right materials, right methods of
construction.

You cannot find a better tire than the Fisk—you can easily find
many that are inferior to it. All we ask is an investigation.

FISK RUBBER COMPANY, Chicopee Falls, Mass.

BOSTON, 604 Atlantic Ave.	SPRINGFIELD, 40 Dwight St.,	NEW YORK, 83 Chambers St.	PHILADELPHIA, 916 Arch St.	SYRACUSE, 423 So. Clinton St.
BUFFALO, 28 W. Genesee St.	DETROIT, 252 Jefferson Ave.	CHICAGO, 54 State St.	SAN FRANCISCO, 114 Second St.	

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Members of the trade are invited and are at all times welcome to make our office their headquarters while in New York; our facilities and information will be at their command.

To Facilitate Matters Our Patrons Should

Address us at P. O. Box 649.

NEW YORK, JANUARY 9, 1902.

Work for January.

It is to be feared that not all dealers observe the adage, "In time of peace prepare for war," by taking advantage of the first month of the year for putting their repair shops in order.

After a season's rush and hurry, stress and strain, every shop—and every tool in it—needs a good overhauling. Weak points revealed by the spring rush, the wear and tear on the implements of the repairing trade, the changes necessitated by the changing conditions—all call loudly for attention.

When he is busy the dealer has neither the time nor the inclination to give it this attention. He keeps putting it off, saying "to-morrow," and too frequently he finds that this to-morrow never comes.

When the slack season sets in there is much of the same unwillingness displayed. Men are laid off as the work lessens in quantity, and the remainder of the force is kept busy on the jobs that still filter in. Still there is no time to give the shop the long

promised overhauling, and the evil day is further deferred.

With the passing of the old year the dealer finds that he has plenty of time on his hands, and he minds him of the needed housecleaning. But housecleanings are expensive, or at least they necessitate some outlay of cash; and in the height of the dull season expense is something the average repairer is averse to incurring. More than likely, therefore, he once more puts the thought from him.

He will wait until just before the season starts up, he says to himself. Then there will be a little work coming in, but not enough to prevent his setting things to rights in the shop.

But alas and alack! he waits and waits, and finally things start up with a rush and he finds himself head over heels in work, and with no time to get his tools ready to do it. Then he makes unkind remarks about himself, and wishes he had listened to the still, small voice which warned him that he had better be up and doing. But it is too late.

It is, of course, no easy matter to steer a clear course between the Scylla of an impoverished cash drawer and the Charybdis of a plethora of work.

But what must be done must be done, and the dealer has the two courses presented to him—to do the overhauling right and at the proper time, or to half do it at the wrong time, to the sore detriment of the expeditious handling of the work brought in.

The former is much the better way. And if it can possibly be accomplished, January is the month to take for it.

Reward of Reputation.

As the season advances, evidence continues to accumulate that the bicycles without a reputation are in a bad way. Those makers who hid their lights under a bushel and without thought of the future built bicycles which were sold under the names of other people are "up against it," to employ the vernacular.

They are like chips on the sea, with every prospect of being landed high and dry on the barren beach. The situation seems to indicate that there is no longer room in the trade for the unknown bicycle. Certainly its field has narrowed and is narrowing.

The dealers who survive are fighting shy of it, and the jobbers who constituted the "big buyers" of old seem to realize the meaning of the shyness. Their orders are not so large as of yore, and the makers who catered to that trade are in an unenviable

position. They have neither reputation nor agency systems, and are now almost literally between the devil and the deep blue sea.

There is no particular reason why the situation should give rise to tears. The disappearance of the cheap and nondescript or nameless or many-named bicycles will prove a good thing for trade and public alike. The manufacturers who deserve it—those who realized the value of a good name and who built it up at great expense, and who are maintaining it—will come more fully into their own.

We repeat that the good name that endures forever is counting for more than it ever counted before.

Missionary Work in Plenty.

To the user of a coaster-brake machine it seems entirely unnecessary to sing the praises of this few-year-old device.

Its superiority to the fixed gear cycle is so overwhelming, so apparent, that it is naught but folly, an idle waste of words, to do more than call attention to it. There is no argument about it. That the coaster-brake is a necessary part of the up-to-date machine is a fact, not an assertion.

So, too, a disquisition on the coaster-brake seems out of place. The device has been in the forefront of the battle now for more than two years. It has been discussed, its merits pointed out and its praises sung until there seemed danger of overdoing the thing, of reaching the ad infinitum, ad nauseum stage. As well point out the difference between a solid tire and one filled with air, a "high" bicycle and the lowly but universal safety, or to argue that the newer inventions were superior to those which they had displaced.

But a little reflection will convince those who entertain these views that they are entirely erroneous.

So far from the coaster-brake having become a standard specification, it is probable that a very large majority of new machines sold are still fitted with the fixed gear, while on the machines already in use the coaster-brake is in an even smaller minority.

Nor is this all. There are hundreds of thousands of riders, and an even greater number of ex-riders, who know only in the vaguest way what a coaster-brake does, how it works, and what zest it adds to riding.

It is no exaggeration to say that the chief coaster-brake territory is east of Buffalo. West of that point the users of the device are

scattered, and even in the aggregate their number is not very large.

If there is still a good field for missionary work in the East, where there are many hundreds of thousands of machines still fitted with fixed gears, the great West offers an immeasurably more fertile soil for the inculcation of coaster-brake ideas, the planting of coaster-brake seed.

In many places the initial prejudice against the device still obtains. Some dealers even are hostile, others are indifferent to it and its wonder-working effects.

To overcome this hostility or indifference is the first task to be accomplished. Dealers should be convinced, first, that they are standing in their own light in not plumping for the coaster-brake; second, that they are doing their customers an injury in permitting them to remain in ignorance of the far-reaching benefits the dual device will confer on them.

For it is in its dual form that the coaster-brake merits most consideration. It is not only a coaster, but a brake as well. The one function is exhilarating and restful; the other gives a better control of the machine at all times, and on hills substitutes an effectual and easily operated brake for one that is but a makeshift, or, in the case of back-peddalling, tiring in the extreme.

It is a statement well within bounds that two out of every three riders could be persuaded to use coaster-brakes if the subject were properly presented to them.

It is a logical assertion, to go a step further, that four out of five riders would be better suited if they adopted the new device, although many of them would vigorously protest against such an assertion.

With such a field before it, there should not be much hesitation on the part of the trade in preparing to sow and reap it.

Where Recruits may Come From.

Advocates of motor bicycles make much of the probable accessions from the ranks of old riders who gave up cycling for one reason or other in years past.

No one who has followed the cycling game closely can doubt that there will be many recruits from this source. For the matter of that, it is almost a certainty that the first rising tide—which, by the way, seems to be gathering force at the present time—will carry many of these recusants back into the ranks of the ordinary cyclists.

But, putting aside this pleasant, even if sanguine, reflection, there is solid ground for the belief that the motor bicycle will, once

properly started, do effective missionary work among these old timers.

They gave up riding for a variety of reasons. Some tired of it when it had ceased to be a novelty; others embarked on the sea of matrimony, and, temporarily at least, forsook the wheel, while a vast number found that buffeting head winds and climbing hills became hard work after a while.

If we go among such men we find them, almost without exception, interested in the bicycle and ready to hear anything about it that is new.

A bicycle that runs itself possesses many attractions for such people. Especially is this true if they are past the first flush of youth and unequal to the physical tasks they once accomplished without very much trouble.

For the majority of them the bicycle still possesses its old fascination. Nothing can ever quite take its place.

But offer them a new and improved bicycle, a machine that gives its rider all the old delights without any of the old labor, and a large proportion of them will undoubtedly seize it with avidity.

The Return of the Sultan.

The Sultan of Morocco is a wonder.

While other potentates were giving no thought to cycling, the African nabob was in the very thick of it. He first mounted the bicycle soon after the pneumatic tire came into prominence, and if he were setting the fashion to the world the world would have gone cycle mad long before it did so. For the morocco-bound gentleman was no slouch. He was always considerably ahead of the times. When the common ilk were riding enamelled bicycles the Sultan was riding a nickelled one; when they bestraddled nickelled ones he "went in" for a gold plated one, and when they affected gold plate he had one built of the real 18 carat article, with hubs of real diamonds, a chain of rubies, a saddle of mother-of-pearl, and otherwise equipped with those baubles which regal hands are wont to toss at swine.

It was a famous bicycle in its day, was this royal mount. It went the rounds of the press of two continents, each continent vying with the other in adding to its setting of precious stones. It was the joy and inspiration of yellow journalism, and when the Sultan went into retirement the fall of newspaper tears resembled the splash of the glad sea wave on the rocky shore.

Why the Sultan retired will never be

known. Why he was brought out into the limelight was never known. All that is known is that he came and that he went. But he was too good to die. He merely slept for a term of years. But he has awakened, and is likely to be himself again. Certainly he is with us once more, for there has crept across the sea this innocent item, printed in black but equally innocent type:

"The Sultan of Morocco has placed an order with a French firm for a motor bicycle."

Only this and nothing more. But it is enough to demonstrate that the old fellow has lost none of his cunning or progressiveness.

In due time his motor bicycle may be studded with diamonds and may give forth the odor of attar of roses, but this is not a matter for immediate concern. Let it be sufficient that the Sultan of Morocco has ordered a motor bicycle, and let cyclists and the cycle trade give hail!

They were palmy days when "his nibs" was with us before. His return to us after many years is but another token of the renewal of the palminess that the season promises and that is slowly permeating the trade.

As a harbinger of cycling prosperity the Sultan of Morocco doubly discounts the groundhog.

Advices from Chicago state that the magnificent cycle track built at public expense in Garfield Park is in danger of being torn up for lack of use and appreciation. Chicago has the reputation of being a "dead" town, cyclingly speaking; but is it so thoroughly dead that none in the city has interest and energy enough to make an effort to save such a splendid institution from destruction? With the coming of the motor bicycle, a speed course of the sort will be beyond price.

It is now wellnigh two months since we showed the fallacy of the British argument that it was our tariff on bicycles that drove the British article out of our markets. Nevertheless, not a line referring to the matter from A. J. Wilson, whose remarks in the Irish Cyclist called forth the article in question, has appeared.

"There are two common costly mistakes in business—wasting fine brains on routine work and trusting fine work to routine brains," says a keen student of human nature.

ORIENT BICYCLES

Motor
Cycles
and
Auto=
mobiles

MODELS FOR 1902
ARE NOW READY.

WRITE FOR AGENCY.

The Orient line for this season is a winner.
Eight elegant models ranging from \$30 to \$50.

Hand=
some
New
Catalog
is now
in Press

WALTHAM MANUFACTURING COMPANY

WALTHAM, MASSACHUSETTS

WEIGHTY PLATITUDES

and glittering generalities don't make
coaster-brake goodness.

Such original and exclusive fea=
tures as being adjustable without re=
moving wheel from frame and therefore
always insuring perfect condition do.

Fewer, simpler and stronger parts,
in short, the application of common=
sense has made the

**FORSYTH COASTER
BRAKE..**

THE PEER OF ITS KIND.

It will richly pay every jobber,
dealer and repairman to know all about
it. We'll gladly furnish the information.

FORSYTH MFG. CO., Buffalo, N. Y.

FOR A PROSPEROUS NEW YEAR

... TRY THE ...

Wolff-American
and
 **Regal Agencies**

We are closing rapidly with representative dealers
in all sections.

If you are looking for the lines that will put
"ginger" in the bicycle business and make it profit=
able, it will pay you to write us.

❖ ❖ ❖

STEARNS BICYCLE AGENCY

GENERAL DISTRIBUTORS OF
Wolff-American and Regal Bicycles
Elfin Juveniles
SYRACUSE, NEW YORK

The Eagle Bicycle

TORRINGTON,

MADE

STANDARD AGE



For **FIFTEEN YEARS** we have been coming regularly to the
Dealers cannot afford to exert their energies nor spend time on
name nor reputation. It is an injustice to the purchaser to offer
grade of machines. The public is willing to pay a fair price for
value of a bicycle made and sold under an established name.

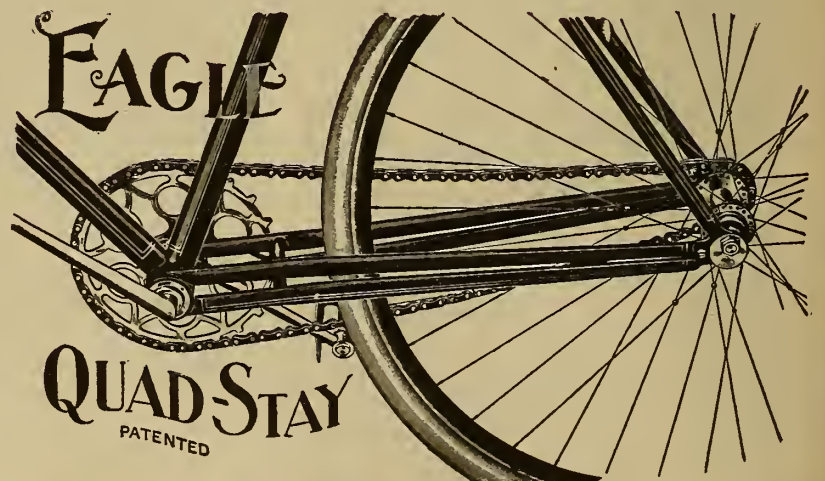
It is acknowledged that there are now only two
types of bicycles: **THE EAGLE** * * * * *
and the bicycle of common construction, to wit:
"The bicycle of the past." * * * * *

We spare no expense in making improvements.
There are more new and good features in Eagle
Bicycles than in all other makes combined. * *

THE wide range of choice offered, makes
the Eagle line the most complete ever
made in one factory.

While we manufacture bicycles exclu-
sively, and in very large quantities, it is not
our aim to become recognized as the largest
manufacturers of bicycles, but rather to
become known throughout the world as
makers of the best bicycle that money, skill
and modern machinery can produce.

We do not continue to manufacture one
stereotyped pattern because it is cheaper to
do so, but are constantly striving to excel.



e Mfg. Company

CONNECTICUT,

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NCY BICYCLES.

made with goods that please the people and find ready sale. time in furthering the sale of machines that have neither unprofitable to the dealer to handle other than a standard for a sterling article, and realize now more than ever the fully guaranteed.



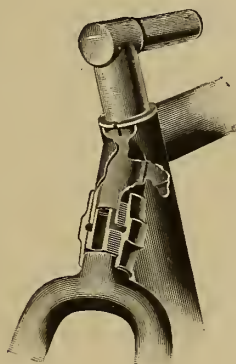
ter, because it is mechanically correct.

✱ Rigid and immovable, yet more ✱
ple and easier of repair. ✱ ✱ ✱

WITH this construction the front and rear parts of the frame are made separate and are fastened together mechanically at crank bracket and seat cluster.

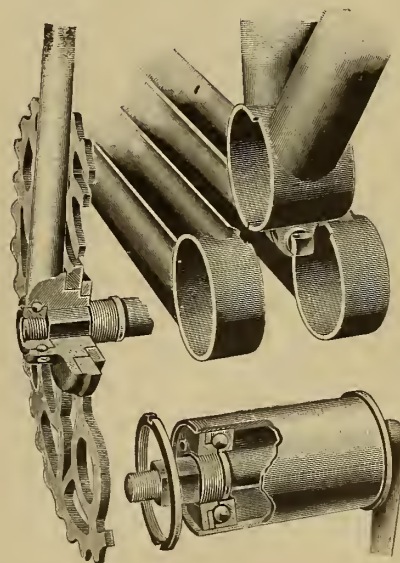
The fastening at the crank hanger is effected by means of an internal sleeve and lock nut. The turned steel bearings are fitted into the frame, and by removing the left crank and bracket, the sleeve and crank shaft may be withdrawn without disturbing the adjustment of the bearings.

The upper rear frame is joined to the main frame by a lock having both right and left hand threads. This device also firmly fastens the seat post by forcing against it an internal locking plug, while it simultaneously draws together and rigidly presses the rear frame to the front frame—a simple, effective and mechanically perfect manner of accomplishing two results by one operation. Eagle Models No. 16 and 18 embody this construction.



✱ ✱ The primitive method was to weld all joints securely. ✱ The modern method is to make them in separate parts and fasten by ingenious devices.

THE
EAGLE
NEW
FRAME
CONSTRUCTION.
"PATENTED."



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The Eagle Bicycle Mfg. Company

TORRINGTON, CONNECTICUT,

MAKERS OF

STANDARD AGENCY BICYCLES.

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It is acknowledged that there are now only two types of bicycles: **THE EAGLE** and the bicycle of common construction, to wit: "The bicycle of the past."

THE wide range of choice offered, makes the Eagle line the most complete ever made in one factory.

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We do not continue to manufacture one stereotyped pattern because it is cheaper to do so, but are constantly striving to excel.

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Better, because it is mechanically correct.

Rigid and immovable, yet more simple and easier of repair.



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BARNUM'S WAY

How the "Prince of Advertisers" Obtained the Publicity That Made him Famous.

A correspondent of the New York Sun inquires of the editor if P. T. Barnum ever did—as was once widely stated—endeavor to buy the Shakespeare house at Stratford with reference to its importation to this country and to exploit it for show purposes. The editor says in reply that nothing can be found in his autobiography that justifies this statement.

Something like this rumor was also current at one time in respect to Niagara Falls when that famous cataract and its environments had special need of care from somebody. The story was widely circulated that Barnum was about to buy all the property around the Falls and fence it in for show purposes.

"Having enjoyed a somewhat intimate acquaintance with Mr. Barnum for many years, and heard him express himself on these subjects, I think I am competent to say that both these stories are essentially false, though they did not lack what seemed to be a fair foundation," says Joel Benton, in Printer's Ink. "Mr. Barnum was always very much sought by newspaper scribes, and he very often hunted them up. He also knew how to entertain them, to draw them out, and to drop in their presence as confidential 'insides' many mysterious hints. He was accustomed, too, to ask advice of all sorts of people in this way. 'What would you think (but don't say anything about it) if I should bring Shakespeare's house over here to show to the American people? Would it pay or not?'"

"Or he would have some friend drop in when reporters were at hand and ask him: 'Say, Barnum, is it true that you have bought Niagara Falls?' When he was sure the question was heard by all he would naturally hush up the speaker, utter a few words in a galling tone and change the topic. Very soon—as he desired and expected—all the papers in the country would be talking about Barnum's scheme, the most of them considering it as a dreadful piece of desecration that should not be allowed."

"This was precisely what he wanted. He had obtained several hundred dollars' worth of 'reading notices' free in first class 'position' and focused the lively attention of every American reader (and world reader in part) to himself and his business. It did not trouble him that some of the remarks made were uncomplimentary, for his idea was that it was not what the editors said of him that counted. If they would only say something he was well served. 'It's when they keep still,' he used to remark, 'that they do me harm.'"

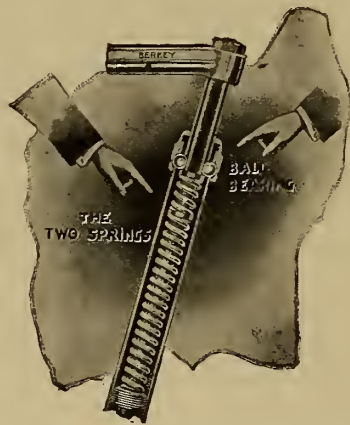
"He told me very distinctly that he should never think of disturbing the sacredness of Shakespeare's home or Niagara by making a vulgar show of them were either scheme in any way practicable. It would be, he said, an inexcusable desecration. But if the pretence of doing so advertised him, 'that (as Kipling remarks) is another story.'"

Ready for Spring Seat-Post Rush.

If there is any article on the market that merits pushing and that seems destined to cut a big figure in the sundry trade of 1902, it is the spring seatpost. It is being greatly helped into popularity not only by the increasing demand for cushion frames, but by the coaster-brake and motor bicycle, which make plainer the need of something more flexible and comfortable than the rigid frame.

The Berkey Spring Seatpost Co., of Grand Rapids, Mich., are among those who have read the signs aright, and who with their ball bearing posts are happily situated to take care of the demand that is due. The Berkey people, too, have not stood still. While they will continue to market their cone adjusting post, Model B, they have appreciated that posts with internal expanders are the vogue, and for 1902 have produced a spring post, Model C, which incorporates that feature.

This internal expander post is easily fastened to the bicycle without aid of special



tools or wrench, by simply turning the plunger, which securely fastens it in place without bulging the tubing, and is also as easily released without binding in any way. It embraces all the features of the standard Model B post, having the ball bearings and cone adjustment, positively eliminating any side motion of saddle, and taking up any wear that might be occasioned by hard use or neglect.

W. J. Loomis, for so many years identified with Clipper and later with Rambler bicycles, is now the manager of the Berkey Co., and is full of the confidence and enthusiasm that are reasonably sure to finally lift the cycle trade out of the slough of despond. The outlook, he says, is exceptionally bright. He prophesies that the demand will be tripled during 1902. The Berkey people are so sanguine in this regard that they are removing to a factory that will afford them greatly increased facilities.

There is small excuse for any one remaining in ignorance regarding these spring posts, since the Berkey people agree to not only refund the purchase price to all whom the posts fail to satisfy, but to pay the costs of the return charges. The dealer who cannot make sales on such a basis is missing his vocation.

RACYCLE'S REASONS

Why They Refuse to Manufacture or Deal With Cheap Bicycles.

Bound in a refined cover of gray, with artistic embossing in sage green and gold, the catalogue of the Miami Cycle and Mfg. Co. is sure to rank with the eye pleasers of the year; more than this, it tells the story of the Racycle in characteristically Racycle fashion, tartly, argumentatively and well. Let this extract serve as an example of the whole:

"In buying a Racycle you get exactly what you pay for, viz., the highest priced and the highest grade bicycle on the market. We do not utilize inferior material or cheap labor, and it costs just as much to build an honest bicycle to-day as it did five years ago. That there are no cheap Racycles is not because we set ourselves upon a pedestal with a 'holier than thou' inscription carved on its base, but rather because we have profited by the mistakes of others who have endeavored to hold up their standard by masking with a beautiful finish a lot of inferior material built by unskilled labor. Bicycles are not unlike any other commodity; their worth depends upon the amount of money their manufacturers put into them."

"Look back in the shadow of a clothing store window at a suit of clothes marked \$7.99. It seems equally as good in quality and makeup as the suit directly in front marked \$20.00; and yet you are not deceived by appearances, because you know that the material in the \$20.00 suit is worth more than the entire amount asked for the cheaper one. The material used in the Racycle is worth more than the total amount asked for many of the so-called high grade bicycles."

"We might talk and write a thousand years without convincing a prospective customer, unless we could give him a good, square reason to demonstrate why the Racycle is worth all we ask for it."

"Everybody knows that the heart of any bicycle is its crank hanger, and if the heart does not work as nature intended it should the whole system is defective. Before we began to manufacture the Racycle we found that through tradition the propelling mechanism of all bicycles was wrong, and hence we blazed a new road through the forest of ignorance and put on the market a mechanically perfect crank hanger, one with a heart that beat regularly, just as the natural law of mechanics intended it should."

"Theories are like the dreams of an opium fiend, and amount to little in the minds of the thoughtful, while absolute results are convincing to the unprejudiced."

"Defects (in motorcycles) and How to Remedy Them." See "Motocycles and How to Manage Them." \$1. The Goodman Co., Box 649, New York. ●●●

CENTRE OF GRAVITY

What and Where it is and the part it Plays in the Bicycle.

It is a theory pretty generally accepted by scientists that "the higher the centre of gravity in a bicycle the less is the tendency to side slip."

Starting from this point, a writer of considerable authority puts the matter in this way:

The bicycle will not of itself remain standing when in a state of rest. Impart motion to it and it holds up by constantly striving to maintain its centre of gravity within the base line. But even when running at high speed, and driven with great equableness, a kind of balancing always goes on. With the rider in position the centre of gravity of the whole mass of man and bicycle lies at a point somewhere near the saddle, and about this point the balancing is made. The swaying is usually imperceptible; it is always there, nevertheless.

Let us make an exaggerated comparison between the side play of a moving bicycle and an inverted pendulum on the swing. If the centre of gravity of the cycle sway too much to either side, over goes the bicycle, provided the rider does not make some special effort to save himself. In the inverted pendulum it is the rule that the longer the rod the greater will be the distance through which the pendulum will swing.

Now, in the bicycle it can be taken that the pendulum rod corresponds with the height of the saddle above the ground; and hence the greater this is the more can the cycle swing from side to side without losing its balance, and the slower will be the oscillations. So that the time taken for the centre of gravity to deviate a certain angle from the vertical is greater the higher the centre of gravity is. This comparison is not quite correct, and is intended only as a sort of illustration.

In dry weather and on smooth roads there is little tendency for the cycle to overtopple in its swayings, and no difference in steadiness could be traced between the position on an old fashioned 54-inch cycle and a modern safety with the saddle at its lowest. But over rough and greasy roads the high ordinary would clearly demonstrate its steadiness. The swayings of a cycle are accentuated and interfered with by the rough or slippery road, just as if a pendulum were jarred.

The short stretch safety takes short, rapid swings, and when thrown out of its rhythmic movements tends to skid unless the rider promptly fetches it up by readjusting the balance. The long, slow swings of the high machine have a greater margin of security; the machine recovers itself better, and there is less balancing skill needed from the rider. For this same reason it follows that

a safety with the centre of gravity highly placed is steadier than that in which it is placed down low.

By centre of gravity we may say is meant that point at which the whole weight may be supposed to be concentrated. In the bicycle with rider on this point may be taken as lying at or near the saddle. It does not seem correct to say that the rider frequently shifts the centre of gravity. If the rider stood with his entire weight on one pedal the centre of gravity would not then be at the pedal. It would be where it was before—at the saddle. (The centre of gravity of a pedestrian is not in his toes.) And it should be noticed that if the rider placed his feet on the fork crown he would not raise the centre of gravity very much, as the weight of his legs is not great as compared with the



NEW YORK BRANCH: 214-216 WEST 47TH STREET.

trunk, etc. This movement would undoubtedly affect the centre of gravity, but only to a small extent, for the reason shown. Should the rider sway about in the saddle, fresh complications, however, are introduced.

The Retail Record.

Great Barrington, Mass.—Minkler & Collins, loss about \$300; insured.

Mineola, N. Y.—John S. Patrick has bought out James Birch.

New York, N. Y.—The American Bicycle Co. obtained judgment for \$150 against John B. Goff.

Green Bay, Wis.—F. C. Clabots, Adams street, is building an addition to be used as a repair shop.

Calendar From Kansas.

So far as the retail trade is concerned, the most tasteful, useful and impressive calendar for the new year is the one issued by Schollenberger Brothers, Wichita, Kan. It is one of those designed to stand upright, and contains not only a calendar, but a small thermometer.

CONCERNING THE CHAIN

Why the Roller Lost Ground That it Well Deserves to Regain.

Man's proneness to self-deception, to jumping at conclusions that may be entirely erroneous, is well known.

For years no English maker thought of putting out a bicycle unless it was fitted with "shrouded" sprocket wheels—that is, sprocket wheels with flanges, on which the side links of the chains were supposed to rest. Then, one day, somebody discovered that half the chains never touched these flanges at all; and this discovery was followed by another, to wit, that it was doubtful whether the flanges were of any use even if the side links did touch them. The net result was that people stopped talking about flanges, or "shrouds," and nowadays nobody cares a continental whether sprocket wheels have these appendages or not.

Now comes the question whether roller chains are all that fancy paints them. There is something so fascinating in the word "roller" that it is small wonder it tickles the fancy of the impressionable cyclist. When "roller" meets "block" it is dollars to doughnuts that the latter will suffer—in imagination.

Years ago, when the roller chain had its first great run, its admitted weak point was in the matter of durability. It ran better than the block chain under ordinary road conditions; dust and mud had but little effect on it, while with its rival a marked deterioration set in the instant these conditions prevailed. But, as stated, the roller chain did not wear well. It stretched badly, the rollers and pins wore at a tremendous rate, and it soon became little better than a rattletrap.

These deficiencies proved its doom. The block chain was the better, everything considered, and in the early nineties it drove the roller type out of this country. It has remained in disgrace to this day, for although there are roller chains in use here the number is so small as to be an almost negligible quantity.

In Great Britain, however, there has been a rejuvenation of the roller chain. It has swept everything before it. One maker has gone so far as to drop the block type from his list altogether, while others retain it largely for form's sake.

But this fondness for the roller chain is not shared by the trade in this country.

The block pattern still rules, with only a maker here and there who pushes the other type; and this in spite of the fact that the roller of to-day is a very different article from that of ten years ago. In fact, it is hardly too much to say that it has caught up with its rival and is quite as durable.

"How to Drive a Motorcycle." See "Motorcycles and How to Manage Them." \$1. The Goodman Co., Box 649, New York. ***

QUOTING TRADE PRICES

When an Outsider is Entitled to Them—on Motor Bicycles, at any Rate.

Editor The Bicycling World:

"Spoiling Golden Eggs," on page 323, and "Secret of Success," on page 327 of your issue of January 2 each furnish most pointed reading to one who has been mixed up with the motor bicycle for a long time now, and who has marketed not a few of them.

But it is because of the experience accumulated in a year's very active campaigning that they become doubly interesting to the writer, if taken in conjunction. They are stella, and should be read and laid to heart by every maker of motor bicycles. There is this difference, however: the "Secret of Success" is a sermon; the "Spoiling Golden Eggs" is a special pleader.

The man who wrote of success may or may not have had the strenuous experience of selling—this only the editor knows—but the points made all through so tally with my own experiences that I am thinking he must have sat throughout the spring and summer months at noonday lunch with a motorcycle sales manager. All through it deals with facts as they are and have been, and deserves framing or else a brochure issue.

So strongly does it appeal to me that I would like to quote it all through, but as the purpose of this letter is, after all, to combat in a friendly spirit the position taken by the author of the other article in question, Sales Manager Heath, of the Wisconsin Wheel Works, on the subject of whom shall we sell to, I shall only quote such parts as experience has taught me bear directly on this question from the standpoint of selling goods.

Mr. Heath evidently takes the stand that a motor bicycle should be sold at a trade price only to bicycle dealers. As an academic statement or position this is a good stand to take, but if he and all other motor bicycle makers were to hang to this position absolutely the motor bicycle would never get beyond the goo-goo or creeping age, if it did not die a-borning. And why? The man who wrote on the secret of success has clearly explained in the following extracts from his article:

"They (the agents) will heartily agree with everything that can be said about the desirability, nay, the necessity, for a change, a betterment. But there most of them will stop. 'Let it go out and get a reputation,' was the reply in effect, if not in words, made by many members of the trade. Others gave it lukewarm support, stocking it and then letting it shift for itself. A third group, and much the smallest one, gave it intelligent backing from the start."

Whatever the source of inspiration to the writer here quoted, these are positive conditions that have met the motor bicycle

maker of this country. There is not to-day one dealer in twenty-five who has purchased a motor bicycle, and yet the other twenty-four and odd have been approached, solicited, circularized and furnished proof that the goods offered were desirable if they were alive to business possibilities; in many instances they were even given inquiries from their town, and yet would not see.

If in a town having five dealers not one could be shown the way, and there should follow this an inquiry from a prominent lawyer or physician stating that he could not purchase from a dealer in that town because all dealers decried the motor bicycle, and this inquirer had the faith that the dealers lacked, who can successfully claim that it would not be good business to sell him because he insisted, under the conditions, on an agency price? What claim could any of the dealers put up that their pet corns had been trodden upon? And this is not a hypothetical illustration. It is a fact, and has more than one counterpart in one year's experience, not to go further back.

In conclusion let me say that I shall at all times be more than anxious to have a bicycle dealer handle my goods, and he will not only have the first opportunity, but considerable patience and time cost will be devoted to what would be for our mutual advantage; but if he is the only dealer in his town, and positively will not wake up to his opportunities, I shall have to create a new agent in that town, just as he was perhaps created when he first tackled the bicycle. There were then more makers than the dealers in his town could take care of, and from a drug clerk, bank messenger, or perhaps a repairer in some already existing bicycle store, he was developed into one of the dealers on whom we are calling.

ANOTHER SALES MANAGER.

Proper Motor for Tandems.

Editor The Bicycling World:

Would a 1¾ B. H. P. motor, as ordinarily used on a motor bicycle, be sufficiently powerful to drive a tandem bicycle?

Also, what diameter of tires, consistent with comfort and safety, without being too large and heavy, should be used?

WILLIAM.

[It would be the part of wisdom to put in a slightly larger motor than a 1¾ if it is intended to rely on it entirely for the driving. If, however, the riders are willing to help the tandem by pedalling when hills of more than usual steepness are encountered, a motor of this size should develop sufficient power. Much depends, however, on the motor, the tandem and the riders. If the first is up to the work it is claimed to do, the second is well and strongly built and easy running, and the third are accustomed to tandem riding, all around good results should be obtained. Opinions differ as to tire sizes. They should not be less than 1¾ inches, and if they were a little larger than this it would be better. Yet the use of tires of too large a cross diameter is not recom-

mended. Indeed, the construction of most tandems precludes their use, the rear forks and stays being too narrow to allow the proper clearance if anything over two inches is used.—Ed.]

Two Practical Shop Kinks.

Two shop "kinks" in use in the Leland & Faulconer works at Detroit which are practical to a degree are thus described:

The first is a simple substitute for lockers. Sticks about 4½ feet long, 1 inch thick and 3 inches wide, having a handle whittled at one end and a ½-inch hole near the other end, are hung on nails driven into the window casings. Just below the hole is an ordinary coat and hat hook. The men take down the sticks, hang their coats and hats on the hooks and then hang the whole business on the nail, where it is up out of the way and reasonably free from danger of damage. While not so nice as lockers, it is vastly better than the utter lack of conveniences of the average shop.

The other idea is for the protection of drawings while in use in the shop. The drawing in use is slipped between a sheet of binder's board and a sheet of thin, transparent celluloid, fastening the whole together with round head paper fasteners.

Utilizing the Exhaust.

Among recent foreign patents is one of interest to motorcycle users, especially now, when low temperatures are the rule and not the exception.

The invention is an arrangement by which the products of combustion of petroleum motor cars are utilized for the purpose of warming one or more of the parts of the carriage, such as the foot rests or the steering handles of the vehicles, the arrangement consisting substantially of a branch pipe from the exhaust pipe, conducting the hot products of combustion to the different parts, such as pedals or the steering handles, the partial or entire utilization of the heat being regulated by a cock or valve operated by a handle.

By the Heraeus System.

That difficult process, welding aluminum, is thus accomplished by the Heraeus method: The operation consists of cleaning the surfaces of the metal to be joined, laying them together, and heating them carefully to the temperature at which the metal commences to soften, keeping at that temperature, and meanwhile hammering together to a perfect weld. It is important that the temperature be kept constant. If it rises too high the metal becomes short or granular, and commences to oxidize—a condition which renders the weld useless.

Catch Phrases That Please.

Chain construction has been brought to a high state of perfection, and refinements unthought of years ago mark the latest development of the art. "Harveyized-recessed rivets and glass-hard wearing surfaces" is the way an across-the-water concern describes its latest product.

THE "BICYCLE IDEA"

The Germ Planted Nearly 200 Years ago— Its Gradual Growth and Evolution.

"Does any one doubt the extraordinary vitality of the bicycle idea?" asks the Columbia catalogue, and then, assuming that some one does, it continues: "Let him consider the persistence with which it has outlived the errors of those who successively failed in attempts to bring it to practical development. Let him note its present vast importance in the general scheme of human activity."

"Nearly two centuries have elapsed since the laws of motion which enable the rider to keep his moving bicycle upright began to be associated with the problem of improved human locomotion. The world was groping for 'the wheel' fifty years before the first rudimentary vehicle of the bicycle group was exhibited to astonished members of the French Academy in the Place de la Concorde, Paris, in 1779. During the next hundred years various bicycle contrivances of divers degrees of uncouthness were produced. Each was a little better than anything of its kind previously made, but still served only to add another incident to the early sorrows of inventive genius. All of the machines thus evolved—curricles, hobby-horses, drasines, velocipedes—died early and natural deaths for the reason that, except as mere curiosities, of which the world has always had enough, they were of very little use."

"But the instinctive demand for a light, practical vehicle with two wheels and a single track was bound to be satisfied. It was partially met by the high bicycle with suspension wheels, introduced to the American public in 1877, and later brought to a high degree of excellence. Then, out of a clear sky, as it were, came the pneumatic tired machine of the present type, crowning with the highest success man's long continued endeavor to move from place to place swiftly and easily by mechanical means, yet without entire sacrifice of physical effort."

"As a practical vehicle, adapted to a great variety of useful purposes, the bicycle is economical, swift, sure and always ready. Its original cost is only a small fraction of that of any other means of conveyance, while the cost of keeping it is next to nothing. Its value as a money saver can perhaps be best appreciated by those who have occasion to journey to and from home and business or work a certain number of times daily. A quick mental calculation will serve to show how soon a bicycle, as a substitute for regular street car service, can be made to pay for itself."

"As a means of exercise the bicycle brings into alert and healthful activity every muscle, nerve and faculty. It moves beneath its rider like a thing of life, and adds

to the mere physical exercise the exhilaration of rapid motion in the open air and the interest of constantly changing scene. It has been well said that the training of the eye and ear, the alertness and suppleness of limb and joint and muscle, the quick observation, the habits of prompt decision and self-reliance necessarily developed by bicycling, are such as to cause it to lead in these respects every other form of outdoor exercise."

The Most Powerful Motor Bicycle.

What is undoubtedly the most powerful motor bicycle in existence is that shown by the accompanying illustration—a 6 horsepower Marsh racer, made by the Motor Cycle Mfg. Co., Brockton, Mass. It was exhibited at the New York Automobile Show, and it was Mr. Marsh's idea to participate in the mile speed trials on the Coney Island



Boulevard, which followed the week after the show.

Unfortunately the big machine was delayed somewhere on the line between Brockton and New York, and the Marsh was, perforce, among the non-starters. In an unofficial trial, however, Mr. Marsh states that he has ridden the mile in 1m. 23-5s., and had no trouble in maintaining close to a fifty-five miles per hour pace on the State road near Brockton.

The racer is fitted with a large pulley on front, and makes about the same number of explosions at sixty miles an hour as the ordinary $1\frac{1}{4}$ horsepower does at twenty-five.

Left for the Future.

As is pretty well known, the great pressed steel industry grew from an insignificant device designed to fasten the doors of railway cars. Now the greater portion of the majority of freight cars is made of pressed steel. The increasing use of pressed steel lends some support to the belief that sooner or later bicycle parts also will be made in this expeditious and cheap manner. Pressed steel frames and forks are by no means a wild flight of imagination.

POPE'S FIRST PNEUMATICS

Amusing but Costly Results of not Knowing Anything About Them.

"I don't think I shall ever forget the first pair of pneumatic tires that came to the Columbia factory," said Henry Goodman, who at the time was identified with the Pope interests, and whose reminiscence had been induced by a paragraph in last week's Bicycling World.

"They were Dunlop 'rag' tires, of course, and no one knew any more about them than the average man knows about motor bicycles to-day. They were affixed to an English bicycle, and when it was uncased some one left it standing with the front wheel against

a steam pipe. As a result, when the heat got in its work the front tire exploded with a bang, and we had but one tire remaining, and that one was deflated."

"When we desired to inflate it, it was discovered that there was no pump to be had anywhere. Accordingly we carried the bicycle to an adjoining factory, where there was a compressed air pump. We had no idea how much pressure the tire would stand, and the powerful pump inflated it so quickly that the tremendous pressure blew the tire to pieces before we knew 'where we were at.'"

Fatigue in General.

As is now well known, metal suffers from fatigue if it is used continuously, and it has long been said that tires are the better for a rest, and the machine fitted with them should be hung up when it is out of service for any length of time. This idea is even applied to the belts in use in one machine shop. They are thrown off the pulleys on Saturday night and replaced on Monday morning. It is not stated whether this increases their length of service, but it certainly cannot do any harm.

“Knowledge is Power”

and than now

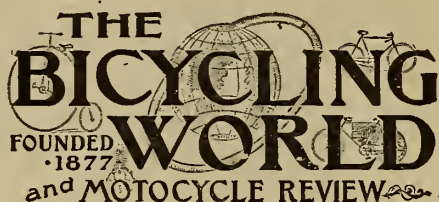
it was never more powerful in the Cycle Trade.

**The Dealer Who Knows
What's What and Who's Who**

and who keeps himself constantly informed

Is the One Who Will Survive.

....IT IS THE MISSION OF....



TO SUPPLY JUST SUCH INFORMATION.

If you are content merely to drift with the tide—if you are content to live within your narrow shell—the statement will suggest nothing. If you are watchful and wide-awake; if you are a really progressive merchant who desires to survive and to keep abreast of the times, this subscription blank will be hint enough for you.

THE GOODMAN COMPANY,

124 Tribune Building, New York.

Enclosed find \$2.00 for which enter my subscription
to the BICYCLING WORLD for one year, commencing
with the issue of

Name

Address

RACING

Refreshed by a good rest, the teams competing in the six day bicycle race started Thursday, January 2, without the listlessness which characterized their riding on Wednesday. During the first hour the teams rode 20 miles and 2 laps. In the evening some of the best racing of the week occurred, each of the six leading teams contributing to the excitement; the pace was furious, but none of the leaders were able to score on other than the tail enders. Krebs, whose team mate, Keegan, was unable to ride owing to swollen ankles, failed in his attempt to gain the one lap lacking to place the team up with Fisher and Chevalier for seventh and last money. Krebs gained one lap Wednesday night, but Simar and Gougoltz prevented his getting another Thursday, thus assisting their fellow Europeans in holding seventh place. The score at the end of the fortieth hour was:

	Miles.	Laps.
MacFarland and Maya.....	804	3
McLean and Butler.....	804	3
Mumroe and Freeman.....	804	3
Gougoltz and Simar.....	804	3
Leander and Rutz.....	804	3
King and Samuelson.....	804	3
Fisher and Chevalier.....	804	1
Krebs and Keegan.....	804	0
Muller and Jaak.....	803	6

Champion made a new world's indoor record for the mile, doing the distance on a motor bicycle in 1:26 2-5—two-fifths of a second better than the previous figures.

The hard working members of each of the nine teams did most of the work during the evening of the fifth day, evidently saving the sprinters for the final rush Saturday evening. This was permissible, as the rule making it compulsory for each man to ride five hours a day was suspended. There was no change of positions among the teams during the day, although there was more or less excitement, as Krebs, Chevalier and McLean made several efforts to gain distance. Freeman crossed the line first at the finish, with Maya second. The score at the end of the day, the fiftieth hour, was:

	Miles.	Laps.
Freeman and Mumroe.....	1,000	7
McLean and Butler.....	1,000	7
MacFarland and Maya.....	1,000	7
Gougoltz and Simar.....	1,000	7
Leander and Rutz.....	1,000	7
King and Samuelson.....	1,000	7
Fisher and Chevalier.....	1,000	5
Krebs and Keegan.....	804	0
Muller and Jaak.....	1,000	0

A disgraceful fight ended the sixth day, ten hours a day, race at Park Square Garden, Boston, Saturday, January 4. The fight started over an alleged foul of McLean, who was thrown against Gougoltz and knocked off his wheel. McLean quickly got a remount, but was unable to land better than sixth, with Gougoltz just ahead of him. MacFarland, who had been picked for the winner, cleared the bunch and crossed the tape first, with Leander second, Freeman third and King fourth. Apparently some deal had been entered into between the lead-

ing teams, but the whole affair is so full of conflicting stories that it will be difficult to place the blame where it belongs until an investigation has been made. In the meanwhile the prizes will be withheld. The final score at the sixtieth hour was:

	Miles.	Laps.
MacFarland and Maya.....	1,193	5
Leander and Rutz.....	1,193	5
Freeman and Mumroe.....	1,193	5
King and Samuelson.....	1,193	5
Gougoltz and Simar.....	1,193	5
McLean and Butler.....	1,193	5
Fisher and Chevalier.....	1,193	2
Krebs and Keegan.....	1,193	0
Muller and Jaak.....	1,192	7

As a result of the miniature riot the hot-headed McFarland, who appears to have been the ringleader, and who richly merits a year's "rest," has been let off by the N. C. A. with suspension until June 15 next, being given the privilege of appealing for the imposition of a fine instead. Freeman is given \$50 fine or six months "rest" in lieu of payment, and Gougoltz and Simar are pushed down to sixth place in the race, McLean and Butler moving up into the void.

The indoor bicycle racing season in Philadelphia opened in the Second Regiment Armory on the night of January 4 with a fifteen mile motor paced race between Turville and McEachern. After several tiresome delays caused by the pacing machines, Turville won by half a lap in 26:03 3-5. In the unlimited pursuit race Hadfield won, King second; distance, 2 miles ½ lap; time, 4:15 1-5. In the half mile amateur heat race the first heat was won by Stroud, Grower second; time, 1:04 2-5; second heat won by Philips, Woher second; time, 1:06 4-5; final heat won by Philips, Stroud second, Grower third; time, 1:11 4-5.

A cablegram from Berlin states that the municipal authorities have succeeded in suppressing what they believe to be a genuine "American peril." They have ordered Eddie E. Gifford, of Chicago, the one-legged trick cyclist, engaged for the winter by a circus of Berlin, to abandon his act on account of the danger to the performer and the incentive it offers others. Gifford's turn consisted in mounting a flight of steps and leaping, astride a wheel, into a tank of water eighty feet below. Two young Germans who sought to imitate the act are lying with broken heads in a Berlin hospital.

About Keim's Catalog.

John R. Keim, of Buffalo, N. Y., departs from the beaten path and titles the 1902 catalogue of his Leroy bicycles "Their Annual Debut." The bicycles are listed at from \$40 to \$22.50, and include a model fitted with the Regas spring frame at \$35. This particular model has moved the Keim muse to poetize thus:

"Make the roughest road like a ballroom floor,
Curbstones like shadows will seem;
Vibration and jar, you shall know them no more—
'Tis a positive fact, not a dream."

ODDS AND ENDS

London has more than two hundred cycling clubs. New York has not one-third that number.

It is reported that several Metropolitan bicycle clubs are increasing their membership at the present time, a most unusual occurrence.

In West Australia, where towns are few and far between, and water scarce, and therefore precious, the motor bicycle is being hailed as a swift and ready substitute for the camel; several of the machines are already in use, and more have been ordered.

The manner in which factory capacities may be increased is aptly illustrated in the case of the Morrow coaster-brake. Four years ago 125 brakes per day was the limit of the factory at Elmira, N. Y.; to-day 1,500 are easily possible, each device being subjected to 264 different operations and handlings.

An old rider gave up his Sunday ride recently, alleging that the wind was too much for him. He did not mind the cold, he said, but "bucking" the wind was a little too fierce a game at his time of life. He did not mind the work, either. It was rather the fact that against the wind his progress was so slow that he could not keep warm.

Notices have been sent out by Secretary Frank W. Weston, of the Boston Bicycle Club, of the twenty-fourth annual meeting of this, the oldest organization in this country. It will take place in Room 10 of the Boston Tavern—itsself even more unique and much older than the club—at 7:30 P. M. on January 8th. An informal supper will precede the meeting.

The behavior of the motor bicycle on snow covered roads is still a mooted question. A Birmingham (England) tradesman is said to have ridden his machine over such roads during a recent blizzard which was reckoned to be the worst that the city had experienced since the great storm of 1881. Notwithstanding, there was not the slightest sign of slipping or mishap of any character.

One class of riders that the motor bicycle will appeal to with unusual force is the old timers who were once in the front rank of the speedmen, but who are no longer able to take hills, and even levels, with their afore-time pace. Neither do they like taking back seats while on the road, and they have rather a hard time of it squaring things when they go out. The motor bicycle gives them a lift, and it will be suprising if there are not a number of them who will make use of it.

"The Motor: What It Is and How It Works." See "Motocycles and How to Manage Them." \$1. The Goodman Co., Box 649. New York. ...

ABOUT THE L. A. W.

**Ex-President Sams Heard From—Michigan's
"Printer Consul" Finds Able Defender.**

Editor The Bicycling World:

Just as the Bicycling World of December 26 came I was writing a letter to Mr. George C. Pennell, first vice-president of the L. A. W., in New York, asking him to let me know where the National Assembly would be held this year, as I wish to attend. I have heard, by rumor alone, that the National Assembly would be held in Connecticut.

If this rumor is true I regret to hear it. A glance at the membership at present shows that two-thirds of it comes from the three States of Massachusetts, Pennsylvania and New York. It seems to me, therefore, it would be only fair to have the National Assembly meet at a place where the bulk of this membership could be easily represented, not by proxy, but in person. I should be very glad to go to New York, which seems the most central point that can be chosen, to be present at the next Assembly; but to go to Connecticut at this time of the year, with the prospect of meeting only a few persons, is not a very cheerful outlook.

To show that men will come to the rescue of the League, especially those who are old members, I have recently had the promises of quite a number in the city of Baltimore that they will renew their interest. We shall undoubtedly be heard from in a short while. I will be glad to keep you posted on any movement that takes place here. One of the first steps necessary to be taken is to have the National Assembly meet at some place where a sufficient body of men can meet, having some interest in League affairs, and who will seriously work for the reorganization of the L. A. W. I shall certainly do my part, but you are not going to get any number of men to take themselves to Connecticut at this time of the year. As much as I desire to be present at the National Assembly for one, I cannot go to Connecticut in February.

CONWAY W. SAMS, Baltimore, Md.

Editor The Bicycling World:

I am prompted by a spirit of fairness which is certainly due to one who was made the subject of a few guesses by your correspondent signing himself "Detroit" in a recent issue.

The consul to whom "Detroit" no doubt refers has done more for the L. A. W. and the wheelmen of the State of Michigan than any chief consul before or since his administration of that thankless and no salary job, as a recapitulation of the results will show.

In the first place, when this man stepped into the office the division was in a state of chaotic disorganization, results of factional fights and other causes, and had an outstanding indebtedness in the neighborhood of \$1,200, which our books will show.

Out of this disrupted and financially em-

barrassed organization he brought harmony and peace, and to-day our division has but \$99 outstanding debts on its books, which, I think, will compare favorably with many divisions, who have accomplished less in the years gone by and who were not blessed with a printer consul.

During his administration we reached the high water mark of our influence and membership, which was away above two thousand.

I take great pleasure in recording a few of the more important matters brought before the people during his term of office, and which the wheelmen of the State have the privilege of enjoying to-day, the results of hard and constant labor on his part, which we feel are an ample showing for the limited means we have had at our disposal.

The passage of the Anderson bicycle baggage law compelling the railroads of our State to carry wheels as personal baggage, against one of the strongest railroad lobbies ever put forth, is still in operation, and has, no doubt, saved the wheelmen of our State thousands of dollars; and no man spent more time or more money (out of his own pocket) than our printer consul to bring this to a successful issue.

The defeat of the toll road corporations, which terminated in the Supreme Court preventing them from collecting toll from wheelmen, was a grand thing for wheelmen at the time it was fought for.

The city of Detroit enjoys to-day one of the most liberal bicycle ordinances of any city in the country, drafted after his own ideas and passed after weeks of hard fighting, which any sensible man knows cannot be done without the sacrifice of a vast amount of time, which was gratefully given.

The erection by the city of Detroit of an elegant wheelmen's shelter pavilion on Belle Isle, at a cost of \$12,500, was another of his efforts, which was successfully carried out without the spending of one cent of the L. A. W. money.

The successful prosecution of a great number of damage cases in all parts of the State where the rights of wheelmen were infringed upon was a pastime for our printer consul.

During his term of office a number of good roads meetings were held, at which much good roads legislation was attempted and seed sown which will some day blossom into better highways for this State.

Two successful State meets were held and a first class roadbook was compiled, printed and distributed free to our members during his term of office, and at the present time this gentleman has a private personal agreement with the customs authorities, which he still extends to touring L. A. W. members, as a great many grateful members from all parts of the country will testify.

A dry strip five feet wide on each side of the car tracks on our principal streets is in itself worth the \$1 per year paid by members, and this is another of the printer consul's innovations.

A law in successful operation for the protection of cycle paths is only another of the

many good things Michigan members can boast of.

Now, my dear Mr. Editor, I might go on and tell where our printer consul has in many instances laid aside his personal interests to work for the welfare of the wheelmen at large in our city and State, and one and all were benefited, no matter if a member who appreciated the work being done, or one who begrudged his little mite, or one who was so ungrateful as not to contribute at all; and if your correspondent "Detroit" has been so fortunate as never to have had occasion to use his membership in the L. A. W. to right some wrong that had been perpetrated upon him he should be thankful, and not rush into print to slander the man who was ever willing to sacrifice his time and his labor (without pay) to help this same "Detroit" if the occasion had ever presented itself.

In conclusion, my dear sir, I do not hesitate to say that this same consul has done more than any ten men in the State of Michigan for the cause of the L. A. W., and I know has received less than any one who preceded him in the office since I have been a member (1893). I believe in honor to whom honor is due; and if any honor is due any one, that one is our printer consul.

I thank you.

HENRY E. PERRY,
Secretary-Treasurer Michigan Div., L. A. W.

Coarse and Fine Threads.

Other things being equal, a fine thread will give a greater holding or clamping effect than a coarse one; in other words, its mechanical advantage is greater, says a specialist. The finer the pitch the less is the liability to shake loose.

On the other hand, the same latitude of deviation from the exact specified size and shape of screw thread cannot be permitted in a fine thread that might be tolerated in a coarser one.

A screw thread may be likened to an inclined plane or wedge wrapped round the body of the bolt. The rear axle is $\frac{3}{8}$ inch in diameter, 1.178 circumference, and the screw has 26 threads per inch. It is therefore equivalent to an inclined plane of about 1 in 31, if the thread were of square section; the wedging action of the 60-degree thread makes the equivalent inclined plane 1 in 35. While the friction of dry metal to metal is great enough for stability on an inclined plane of this degree of steepness, the coefficient of friction of well lubricated surfaces is somewhat too small.

Greater Strength and Smaller Cost.

In the Fatherland alone is a new steel, the invention of a German named Giebler, intended to be used. The secret of the process will not be sold to foreigners. It is particularly adapted for cycle and motor parts, tools, guns, armor plates, etc. According to experiments made at the Royal Mechanics' Technical Institute, the new steel is about 140 per cent stronger and 50 per cent lighter than Krupp, Harvey and Boehler steel, and costs a third less.

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CUSHION
FRAME
BICYCLES**

you sell
the

MORE MONEY

you will make
and the

MORE COMFORT

and satisfaction
will you give
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BRANDENBURG BROS. & WALLACE, Salesmen.
New York—Chicago.

Benediction From Bethlehem.

Commenting on the sale of the old Wilhelm bicycle factory at Hamburg, Pa., a writer in the Bethlehem (Pa.) Times drops into a reminiscent mood.

"There never was anything invented for man's enjoyment that had so picturesque a career as the wheel, or whose general effect was so beneficial to mankind or so healthful in its influences," he says.

"But, like many another physical agency designed for men's comfort and enjoyment, it was abused and it paid the penalty of popularity. Preachers thundered against it from the pulpit, but it is a poor rule that does not work both ways, for while the bicycle no doubt decreased the attendance upon church services it also emptied the back room of the saloon and kept the street corners clear of a Sunday.

"It brought in its wake health, strength and vigor, and the only ones it injured were those fools who had an unhallowed ambition to climb steep hills and make 'records.' To-day these very fellows are afraid to run half a block after a street car, and exercise the most active solicitude in regard to the action of their hearts.

"The bicycle craze, in the days when the epidemic was at its worst, presented many strange phases and brought about many peculiar conditions. Its effect upon the livery stables was such that it reduced the proprietors of these establishments to the verge of bankruptcy. Their lamentations were worse than those of the prophet Jeremiah, and whenever you mentioned the word 'bicycle' to any one of these caterers in the shape of equine locomotion his face assumed the look of a drawn tomahawk. For a time it looked as if the horse would become as useless as a two-year-old fashion plate. Every Sunday morning the air was musical with the sound of many bells, as scores upon scores of bicyclists whirled through the city on their way for a spin in the country.

"That magnificent stretch of road from Bethlehem to Nazareth is practically deserted, so far as bicyclists are concerned. Had that road been in existence six years ago the roadhouses and hotelkeepers would have made fortunes from the patronage of the devotees of the wheel.

"It is a strange fact that the cheapening of the cost of the wheel killed the sport. It made it common, and nothing that is cheap and common in sport will live in this country, no matter how beneficial its effect upon the masses. When wheels were \$100 there was something about it that stamped the owner as a person of some financial consequence, as he to a great extent was. As soon as the bike came within the reach of the hoi-polloi the knell of doom sounded and the wheel ceased to be a fad and became a medium."

Liked by the Japs.

American wood rims and mud guards are still in demand among Japanese riders. An Indiana firm recently made a shipment of a considerable number of these articles, consigned to a prominent Japanese importer.

**A
New
Bell**

for
the

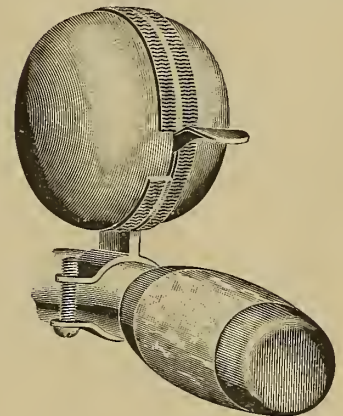
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Year**

and
a

**BEVIN
BELL**

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Stationary Gongs.

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Lamp Brackets, etc.

Our Business More than Doubling Every Year.

REASON FOR IT? CERTAINLY. THINK IT OVER.

MR. DEALER:—Send us your name and address at once and we will tell you how to increase your business in 1902; and if you are a hustler, you can double it. Don't delay.

We don't care how many people know that we build Spring Seat Posts and Expanders exclusively, and that hustling makers of Bicycles and Motor Cycles are giving BERKEY SPRING SEAT POSTS as an option on their 1902 wheels. Insist upon it.

All leading jobbers catalogue it, too.

Thousands of satisfied riders using them all over the world. Have you seen our 1902 catalogue, just out? Will be pleased to mail you one.

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85 Campau Street,

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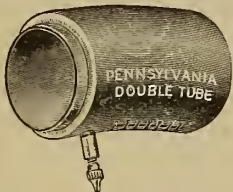


MODEL B



MODEL C

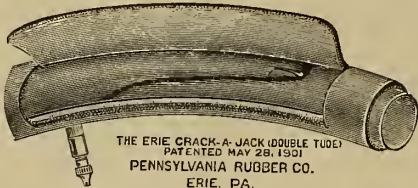
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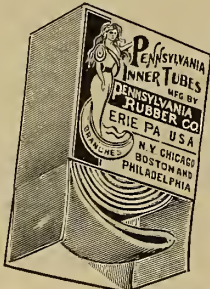
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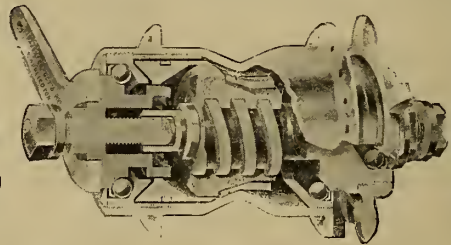
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"The
one that
Coasts"

No Slipping on drive or brake.

Freest Coaster, no contact except with balls.

Noiseless when braking.

Releases automatically after braking.

Runs the season without oiling.

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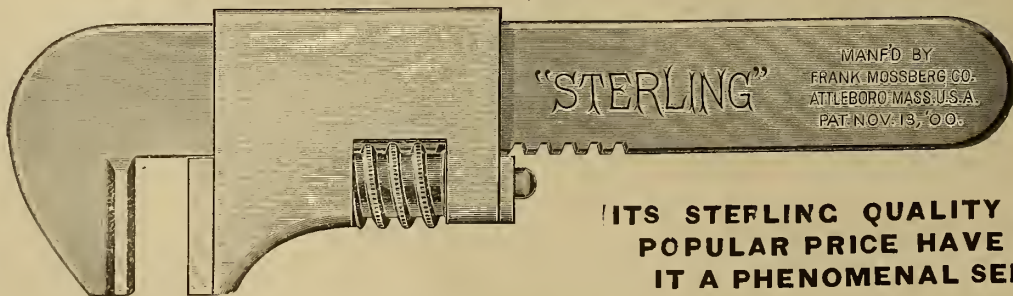
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THE WRENCH THAT ACTUALLY DOES "LIVE UP" TO ITS NAME.



LEATHER WRENCH CASE.

Length,
5 inches,



(Will take 1 1/4-inch nut.)

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ATTLEBORO MASS. U.S.A.
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Weight,
4 1/2 ounces.

ITS STEELING QUALITY and ITS
POPULAR PRICE HAVE MADE
IT A PHENOMENAL SELLER.

FRANK MOSSBERG CO., Attleboro, Mass.

Gerrard on Metric System.

In an address delivered before the Coventry Engineering Society, that eminently practical tradesman and engineer, C. R. Gerrard, presented some telling arguments in favor of the metric system and against the antiquated method of calculations still in use in both England and in this country.

"Many advocates of the imperial system advance the argument that the small units lend themselves to mistakes; this is certainly not true in France, and any one can see that there is no fear of this in, say in six figures or ordinary whole numbers, or even with one or two decimals pointed off," he said.

"Certain it is that we never want to point off more than two figures at the end, i. e., down to the one-hundredth of a millimetre, and so no confusion can, or even does, take place, any more than the same things expressed in yards, feet, inches, fractions or decimals; any argument in this connection applies equally to both systems.

"In spur gearing the calculations are somewhat simpler in metric than in inches. All progressive mechanics use the "diametral pitch" system, which is set out in both systems. This can be found in the catalogue of Brown & Sharpe, and a splendid sheet of this is published by Messrs. Ducommun & Co., of Mulhouse.

"In disposing of the few points raised relating to the engineering and mechanical arts, I might remind you that the metric system is already in somewhat extensive

use. All aeronauts measure the speed of wind in metres per second; then we have the houses of Mather and Platt, Williams and Robinson, Davis and Timmins, in England; the Waltham and most other organized watch factories in the States, and several others of note on this side all work to the metric system.

"Then we have our Board of Trade unit, the kilowatt of energy by which all electricity is sold; the British Association screw threads, etc. Then, again, the greater proportion of our electrical work is in metrical measurements; for instance, we say lines of force per square centimetre and so on, so that very substantial use is made of the system.

"But in the metallurgy classes we used to weigh everything in grains; 24 grains go to a pennyweight, but we used to go for 1,000 grain doses of metals, etc. Why such a unit of weight was used I never knew; 437½ grains are said to make one ounce avoirdupois, and 480 grains one ounce Troy.

"In our arithmetic we resort to "Practice," a cunning device to help make up for some of the glaring deficiencies of the system. Folks have the idea it would be necessary to learn afresh this new weights and measures system, but there is really nothing to learn. A cubic centimetre of water at maximum density weighs 1 gramme, hence a cubic diameter=1,000 grammes, or 1 kilo, and a cubic meter 1,000 kilos, or 1 ton. If the mass is iron, simply multiply by 7.4, or if mild steel,

say 7.8, and you have the weight. Here we have it complete. What could be simpler?

"Taking the view for a moment of watch and fine parts industries, here the one-thousandth of an inch is becoming a very awkward unit, a whole thousandth is too large for many things and a ten-thousandth too small, whereas the .1 of a millimetre is well suited for such work, as the larger parts of a cycle and the .01 of a millimetre, which is approximately 4-10000 of an inch, is just right for watch work, small parts such as cycle chain work, etc."

Two Methods Contrasted.

"If makers would only give people what they want, instead of trying to force them to accept something entirely different, they would sell a great many more bicycles in foreign countries than they do now," remarked a European now in this country.

"I have seen so much of it in my time. I know that repetition processes tend to make manufacturers averse to increasing the number of their patterns. But that is not the thing. It is all right to sell a man what you want to sell him if he will buy it. But if he won't buy it, or if it takes harder work to sell him such goods, it would be the natural thing for the manufacturer to change his tactics.

"But he refrains from doing this, or does it only when it is too late. When the trade is gone he wakes up and announces that he is ready to do what he should have done long before."

THE B & S. WRENCHES
ARE STANDARDS OF EXCELLENCE
BUY THE STANDARD AND GET YOUR MONEY'S WORTH

10-14 INCH AUTOMATIC WRENCH.

MODEL A. MODEL B. MODEL C. MODEL D. MODEL E. MODEL F. MODEL G. MODEL H. MODEL I. MODEL J. MODEL K. MODEL L. MODEL M. MODEL N. MODEL O. MODEL P. MODEL Q. MODEL R. MODEL S. MODEL T. MODEL U. MODEL V. MODEL W. MODEL X. MODEL Y. MODEL Z.

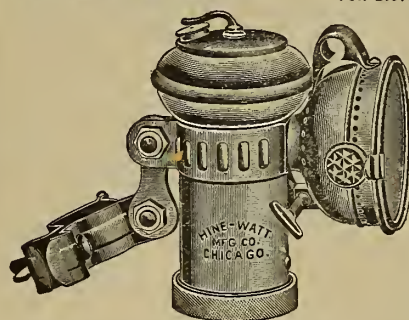
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EVERY WRENCH BEARS THE COMPANY'S TRADE MARK

THE BILLINGS & SPENCER CO.
ESTABLISHED IN 1863
HARTFORD CONN. U.S.A.

COLUMBIA AUTOMATIC GAS LAMP

FOR BICYCLES, BUGGIES AND MOTOR VEHICLES.



Positively automatic water feed, i. e. the water feed is positively controlled by the gas pressure, which is regulated by a gas-cock.

No carbide wasted. Charge can be used repeatedly until exhausted, the same as in an oil lamp.

Lights at once. Turns down or out at once.

Uses one-half the carbide necessary in a large lamp, and gives as good a headlight as the best.

Height 5½ in. Weight 18 oz.

5,000 of these lamps in use on buggies, carriages and motor vehicles in Chicago this year.

We maintain prices.

We carry the stocks ourselves, and Jobbers who purchase from us can return all surplus of unused lamps,

which are marked (Model C) to us at the end of the season.

Our goods are sold on their merits alone. It is not necessary for us to offer prizes. Fine art calendar for 1902 mailed free to the trade on receipt of letter head.

HINE-WATT MFG. CO., 60 WABASH AVE., CHICAGO, ILL.



THEY ARE COMING FAST.

During the past week we have supplied a large number of JOBBERS with electros for cataloguing

THE Smith Two-Roller Spring Seat Post

but there are still a few back counties to hear from.

We have the best article of its kind on the market to-day and can demonstrate this fact to you. We can also make you money, if given the opportunity.

Write to-day.

JOS. N. SMITH & CO., Detroit, Mich.

Wyoma Universal

COASTER, BRAKE AND HUB COMBINED.
WILL FIT ANY BICYCLE. READY TO IN-
SERT IN WHEEL BY LACING IN SPOKES.

Wyoma Detachable

MADE TO FIT THE LEADING STANDARD HUBS.
BOTH MODELS WILL ALLOW REAR WHEEL TO
RUN BACKWARDS.

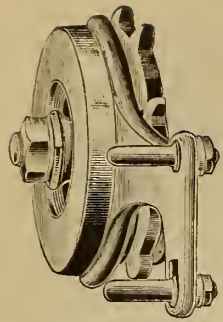
FIVE PIECES, SHOWING CONSTRUCTION OF 1902 MODELS.

NO FIBRES. NO BALLS.

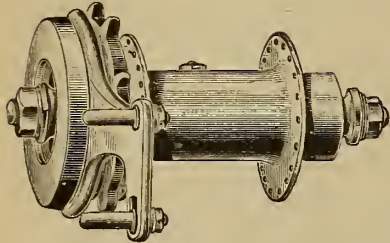
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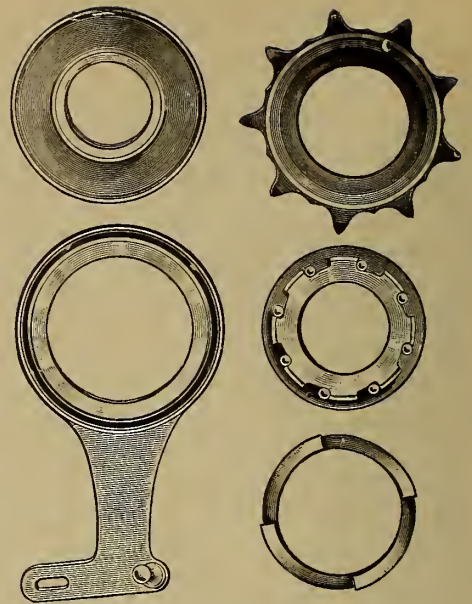
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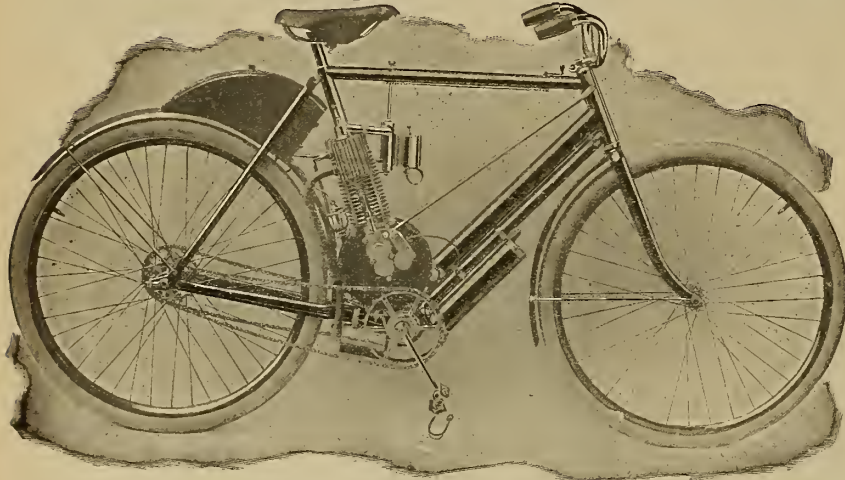
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June 12, Aug. 14, Dec. 25, 1900.
Feb. 19, Mar. 26, April 1, 1901.



"The Big Chief of the Hendee Tribe"



That about describes the position
of the

Indian Motor Bicycle

as it is but the leader of our line. We have other Indians—pedal-propelled Indians at \$25.00, \$30.00 and \$35.00 and like the "Big Chief," they are of the kind that make easy the capture of customers.

If you desire to

Make the Scalp Locks Stand

on the heads of your rivals, the Indian Agency will help you do it.

HENDEE MANUFACTURING COMPANY, Springfield, Mass.

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WHY THE HARD-AS-A-BRICK SADDLE EVER ATTAINED POPULARITY was because the hammock saddles of earlier years would not retain their shapes—they would stretch and sag. From the standpoint—no, from the seatpoint—of comfort and hygiene, the hammock type is immensely and immeasurably superior to the hard saddle, and as this is an age of progress it is natural the means should have been found to prevent the sag and the stretch. Having found the way, we now

Guarantee that the OAK SADDLE will not stretch or sag.

**It Holds
its
Shape.**



**It Holds
its
Shape.**

IT IS THE SADDLE YOU OUGHT TO HAVE AT THE PRICE YOU OUGHT TO PAY.

NEWARK CYCLE SPECIALTY COMPANY,

Newark, N. J.

The Week's Patents.

689,853. Ratchet Clutch Mechanism. Albert Clausing, Milwaukee, Wis. Filed April 13, 1901. Serial No. 55,690. (No model.)

Claim.—1. In a device of the described class, the combination of a shaft; a pulley mounted thereon; an oscillatory dog-supporting disk, adapted to move independently of the pulley, and a series of dogs adapted to engage the pulley; a dog actuating member, also independent of the pulley, and adapted to push the dogs into simultaneous engagement with the pulley when moved in one direction, said dogs being arranged in opposition, whereby the reactionary pressure of the actuating member is exerted upon the opposing dog or dogs.

689,876. Back Pedalling Brake and Coaster. George H. Hammond, Minneapolis, Minn. Filed Feb. 23, 1901. Serial No. 48,440. (No model.)

Claim.—1. A brake and coaster attachment for cycles, comprising the driven ring having the pockets and hub, the driving member mounted on said ring and provided with the reversely acting pockets, the brake having the cam surface and arranged to bear against said hub, the driving balls co-operating with said pockets, and the brake ball co-operating with said pockets, and the cam surface of said brake, and means for anchoring the said brake to the frame of the cycle, substantially as described.

689,962. Coaster and Brake for Bicycles. George H. Hammond, Minneapolis, Minn. Filed Aug. 6, 1901. Serial No. 71,019. (No model.)

Claim.—1. The combination with a wheel hub having a half clutch, of a non-rotary half clutch, a friction clutch member engageable with the wheel hub and provided with half clutches adapting it to be alternately connected with said non-rotary half clutch and with the half clutch of said hub, and a driving member operating on said friction clutch member to throw the same into and out of action and to connect its half clutches with the said co-operating clutches, substantially as described.

689,967. Bicycle. Charles L. Horack, Brooklyn, N. Y. Filed Feb. 5, 1897. Serial No. 622,121. (No model.)

Claim.—1. In a cycle, the combination with a sectional frame having seat and wheel supporting sections capable of relative displacement, of the running gear, two pneumatic cushioning means between such sections, a connecting passage adapted to conduct air into and out of said cushioning means, and a cock in said passage for regulating such flows of air between the cushions.

689,968. Cycle. Charles L. Horack, Brooklyn, N. Y. Filed May 7, 1898. Serial No. 680,014. (No model.)

Claim.—1. In a cycle, the combination with the frame and the running gear, of a pneumatic cushion divided into two chambers and adapted to yieldingly resist relative displacement of the saddle and one of the wheels, and a check valve interposed between said chambers and adapted to be actuated and to permit flow of air between said chambers when compression of the cushion and also when re-expansion takes place.

689,969. Cycle. Charles L. Horack, New-York, N. Y. Filed Dec. 4, 1900. Serial No. 38,632. (No model.)

Claim.—1. In regulating means for cushioning devices for cycles, the combination with a casing, of a wall movable with reference thereto and adapted to displace fluid within said casing, an automatic valve between two compartments in the casing, a restricted return-passage being provided for

permitting flow of fluid between the compartments when the valve is in its restricting position, a body of liquid filling part only of said casing whereby an air-space is left within one of said compartments, and means for compelling flow of liquid through said passage, and thereby checking flow of air through the same after the valve reaches its restricting position and while the air in said air-space is being subjected to changing pressures due to the movement of said wall.

689,970. Cycle. Charles L. Horack, New-York, N. Y. Filed Feb. 26, 1901. Serial No. 48,947. (No model.)

Claim.—1. In regulating means for cushioning devices for cycles, the combination with a cylinder with suitable stuffing-box and a piston and piston-rod, the latter adjusted to slide through said stuffing-box, of guides rigidly connected with the piston and piston-rod on that side of the piston which is farthest removed from the stuffing-box, and guides on the interior of the cylinder adjusted to coact with aforesaid guides.

689,984. Cycle Treadle-bearing. Heinrich Nowigk, Cologne, Germany, assignor to Richard Zanders, Bergisch-Gladbach, Province of Rhineland, Germany. Filed Oct. 4, 1900. Serial No. 32,000. (No model.)

Claim.—1. The combination with an inclosing sleeve or socket of a two-part crank-shaft, one part having a threaded portion and a tapered recess to receive the tapered end of the other part, fixed bearing members at the ends of the inclosing socket, movable bearing members, bearing balls between the fixed and movable bearing sections, a socket about the shaft and coupling the sections, except as to endwise movement, together and threaded to engage the said threaded portion of the shaft, said socket having a projecting portion bearing against one of the aforesaid movable bearing members, an adjusting ring connected to the inner end of the said threaded socket, means for preventing independent rotation of the threaded member of the shaft and the said threaded socket, a sprocket wheel confined in place by said projecting portion of the socket and having a threaded hub, and cranks carried by the shaft sections, one of said cranks having a threaded surface to engage the threaded hub of the sprocket wheel to draw the shaft sections together, substantially as described.

690,034. Bell. Edward D. Rockwell, Bristol, Conn., assignor to the Liberty Bell Co., Bristol, Conn., a corporation of Connecticut. Filed May 15, 1901. Serial No. 60,386. (No model.)

Claim.—1. In combination in a bell mechanism, a rotary member, a ratchet wheel fast on said rotary member, a pawl carrier mounted in operative relation to the ratchet wheel, a free pawl supported on and revolving with the carrier, a gong, a striker, and means for operating the striking mechanism.

690,180. Bicycle. Frode H. Pierson, New Haven, Conn. Filed March 18, 1901. Serial No. 51,708. (No model.)

Claim.—1. In a bicycle, the combination with the pedal shaft of a driving shaft geared thereto, a crank loosely mounted on the said driving shaft to slide thereon and adapted to be coupled therewith, pivotally mounted handle bars and connection between the handle bars and the crank, and means for throwing the crank into and out of engagement with the driving shaft, substantially as described.

690,192. Tire or Other Valve. George H. Schrader, New-York, N. Y. Filed Feb. 14, 1898. Serial No. 670,180. (No model.)

Claim.—1. In tire and other valves, a valve-shell having a valve-chamber and a

screw-threaded socket, in combination with a tubular plug screwing into said socket, and a seat member of packing material out of contact with said plug and forced by said plug into engagement with the interior of such shell, and a member interposed between said plug and seat member, said plug and a seat member independently rotative the one relatively to the other, and a valve proper for engaging said seat member.

690,221. Stand for Cycles. Frederik C. V. Arp and Soren C. Jensen, Copenhagen, Denmark. Filed June 20, 1901. Serial No. 65,290. (No model.)

Claim.—A folding cycle stand or support adapted to be secured to the cycle, and consisting of two pivoted bars disposed alongside the front fork and provided with a longitudinally movable shoe or slide, so arranged as to engage with the wheel-tire when the stand is lowered, and of two legs pivoted to the ends of the bars, which legs in the raised position of the stand are disposed alongside the outside of the bars, but in its lowered position project sidewise at right angles to the stand and the cycle so as to firmly support the latter in its upright position, means being provided for locking the stand both in its lowered and raised positions.

690,342. Bicycle Canopy. Joseph Anderson, Norwich, England. Filed Aug. 26, 1901. Serial No. 73,371. (No model.)

Claim.—1. In a collapsible canopy, a stick having a plurality of superposed notches, ribs extending from the notches, and a covering for said ribs, of oblong form, the upper ribs being two in number and extending oppositely from the upper notch and being disposed lengthwise of the cover and horizontal when the covering is open, and the lower ribs extending downwardly and outwardly when the covering is open, and a runner on the stick connected to said ribs.

Tourist Cars on the Nickel Plate Road.

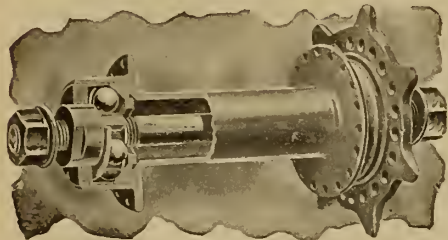
Semi-weekly transcontinental tourist cars between the Atlantic and the Pacific coasts are operated by the Nickel Plate and its connections. Tourist cars referred to afford the same sleeping accommodations, with same class of mattress and other bedclothing, that are provided in the regular Pullman sleeping car service. These tourist cars leave Boston on Mondays and Wednesdays, and leave San Francisco on Tuesdays and Fridays. Berths in these tourist cars are sold at greatly reduced rates. Conveniences are offered without extra cost, for heating food, or preparing tea or coffee, affording every facility for comfort on a long journey, especially for families travelling with children. Lowest rates may be obtained always via the Nickel Plate Road for all points in the West. For special information regarding all trains on the Nickel Plate Road, including these tourist cars, consult your nearest ticket agent, or write A. W. Ecclestone, D. D. Agt., 345 Broadway, New York City. ***

Much Depends on the Flux.

The formation of scale and the efficacy of the brush in removing it are largely dependent on the flux used, for with borax only a very hard, tenacious scale is formed. With boracic or boric acid, however, the scale is easily brushed away if caught at the right heat. On such work as will stand it without deterioration, quenching at a black heat will, as a rule, remove the bulk of the scale when the latter flux is used.

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LIGHT WEIGHT RACING MODEL.)

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wheels must have the
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DUST AND ALWAYS EASY RUNNING.

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is conceded by competent judges to be the
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and positive adjustment. We make the
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WRITE US FOR PRICES.

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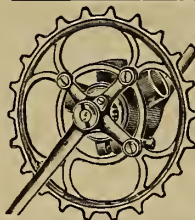
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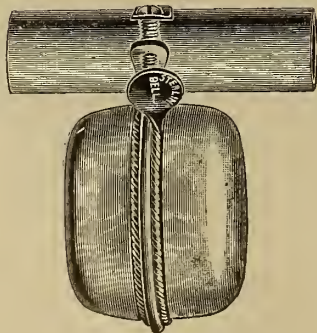
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The Bicycling World

AND MOTOCYCLE REVIEW.

In which is incorporated "The Wheel and Cycling Trade Review" and the "American Cyclist."

Volume XLIV.

New York, U. S. A., Thursday, January 16, 1902.

No. 16

POSITION OF THE POOL

President of Retail Pool Clears Some of the Fog Surrounding the Kehew-Equitable Situation in Boston.

L. C. Havener, president of the Equitable Distributing Co., Boston, the so-called New England retail pool, was in New York on Friday last and, questioned by a Bicycling World man, he threw considerable light on the much-befogged and much-gossiped relations between the Equitable Co. and the United Supply Co., which it was generally supposed to have absorbed entire, stock, title, goodwill and all.

Asked pointedly whether or no this understanding was correct, Mr. Havener stated that such was the case.

"Then why is it that Geo. F. Kehew is still using the name United Supply Co. and signing himself as its president?" he was asked.

"I suppose he is working off some of the old stock we did not take over at the time of the deal; there were things we would not take at any price."

"But has he the right to use the name United Supply Co?"

"We can put our finger down on him whenever we choose to do so," responded Havener.

"But did not the Equitable Co. include the title in its purchase of the business?"

"It did."

"Mr. Kehew states that he has re-established the United Supply Co. at a new location in Boston. Do you mean to say that in purchasing his business a lot of hard-headed business men like yourself executed a contract that will permit him to set up himself as one of your competitors?"

"I guess not," replied Havener, with a smile. "We did not overlook that point. We can put our finger down on Kehew whenever we please."

Asked why the finger had not been brought into play, Havener stated that as he was not directly located at the Boston headquarters he was not aware that wrong impressions were so numerous or so widespread. He had heard some of them, but when they

were discussed some of his colleagues advised that no attention be paid to them, and in consequence no counteracting effort had been made. He promised, however, to again take up the matter, and, if need be, submit a copy of the contract to bear out his statements. During the interview he let fall two items of some interest. First, that the United Supply Co. did not receive a lump sum for the business, but received its money as the goods were sold, and, second, that he, Havener, would in all likelihood shortly leave Worcester and become attached permanently to the Boston office.

Excelsior to Incorporate.

The Excelsior Machine Co., of Buffalo, with the affairs of which rumor has been busy of late, is to be converted into a corporation, the present business being merely a copartnership. The manufacture of steel balls will be continued, of course, and it is possible that some slight changes in the personnel of the company will ensue.

Argument in Worcester Case.

In the U. S. Circuit Court, at New Haven, Conn., last week, Judge Townsend heard argument in the cases of certain attaching creditors against Mr. Goodrich, trustee for the Worcester Cycle Mfg. Co., of Middletown, Conn.

New Departures Reduced.

Both of the New Departure coaster brakes have come down in price as the result of the recent flurry in coaster brake figures. The new list, retail, of both the Corbin New Departure and the New Departure Co.'s own device is \$4.75.

Walsh Leaves Cycle Trade.

E. S. Walsh, treasurer of the Eagle Bicycle Mfg. Co., Torrington, Conn., has resigned that office, and thereby severed his long connection with the cycle trade. He has taken on the general New England agency for the Wilmore computing scale.

End of Huntington.

So far as bicycles are concerned, the Huntington (Ind.) Mfg. Co. is now but a memory. The last remaining parts of their Pioneer bicycle have been purchased by the Randall Wheel Co., Fort Wayne, Ind.

WILL GO TO CHICAGO

American Cycle Mfg. Co. Makes Ready to Remove from New York—Officials Shift About—Dickerson Retires.

While the tendency of the big corporations is to move from the West to the East, the American Cycle Mfg. Co. have unexpectedly elected to reverse the prevailing order of things, and, as a result, the headquarters of that company will be located at Chicago after January 25.

The decision was reached at a meeting of the directors on Monday last. President Bromley and his entire staff will have removed from New York by the 25th inst. and established themselves in the Crescent factory. The removal carries with it the purchasing and sales department. One of the causes which dictates the move to Chicago is the fact that four of the eight factories in operation are located in that city.

At the meeting at which this decision was reached the directors who were named in the articles of incorporation resigned, and the following were elected as their successors: J. C. Bromley, R. L. Coleman, Albert A. Pope, H. A. Lozier and George Pope. They in turn elected J. C. Bromley president, J. C. Matlack vice-president and J. A. McGregor treasurer.

On the following day, Tuesday, there occurred a meeting of the directors of the parent organization, the American Bicycle Co., at which J. C. Bromley resigned his position as vice-president and C. W. Dickerson as treasurer, the latter stepping down and out of the corporation. Col. George Pope was elected to fill both positions.

It is the intention of the American Bicycle Co. to have the directors of the parent company in control of the directory of both the American Cycle Mfg. Co. and the International Motor Car Co.

Miller Creditors get 27 1-2 Percent.

C. S. Dikeman, as trustee for the Miller Mfg. Co., Torrington, Conn., has settled with the general creditors on a basis of 27½ per cent. The Miller Co., as will be recalled, made the Arc gas lamp.

METZ LOSES SUIT

Defeat Carries With it Invalidation of his Pedal Patent—The Court's Ruling.

Charles H. Metz, of Waltham, Mass., has lost his suit against Mary E. Johnson, of Fitchburg, Mass., and with it his pedal patent No. 536,071, which is declared invalid. The defense was carried on by the Bridgeport Gun Implement Co. for Mrs. Johnson. The decision was handed down by Judge Aldrich of the United States Circuit Court, District of Massachusetts, on January 4, and is as follows:

My conclusion is that the patent in question, No. 536,071, does not involve patentable invention. It is true that the complainant's combination, as described in his patent and as supplemented by what means to me to be a subsequent discovery of means, presents a useful and very desirable pedal for bicycles. With the subsequent discovery it became an ingenious and taking combination, and one which has commanded a very large sale, showing that it has merit.

Without enumerating the various elements of the combination described in the patent, I will refer to one feature of the pedal in actual operation, without which the pedal described in the combination would not be practical, and that is the feature of a change of the right and left hand screw-threads of the pintles. Mr. Metz described in his claims pintles having screw-threaded ends, and his idea was to attach the pintles to the crank-shafts by means of the screw-threaded ends, without employing any of the old independent devices for holding them firmly in place.

In the use of bicycles prior to the Metz patent, both the right-hand and the left-hand pintles were threaded with a right-hand screw-thread, and difficulty had resulted from the fact that the right-hand pindle was likely to become loose in the crank. At the time of the Metz patent, his idea was to master that difficulty by putting a left-hand screw-thread on the right-hand pindle, and a right-hand screw-thread on the left-hand pindle; but, as a result in practical operation, the tendency was to unscrew both pintles in the crank-shaft arms. So, in view of this unexpected difficulty in actual operation, and as a result of observations and experiments, made by the patentee after his patent was taken out, he conceived the idea of reserasing the screw-threads and doing what had never been done before in connection with bicycle pedals, or, so far as shown, in any other art, by making a right-hand pindle with a right-hand thread, and a left-hand pindle with a left-hand thread, with threads in the crank-shaft arms to match. This was in the spring or summer of 1895. Under these conditions it turned out, upon use and investigation, that automatic tightening of both pintles in the crank-arms. Thus the means of tightening resulted from the idea of changing the screw-threads, which at

once made a success of the Metz device, and his method of screw-threading was quite universally adopted.

Now, if the patentee had been possessed of that idea at the time of his patent, and had described it in connection with the other elements, or if the combination which he did describe had possessed the inherent capacity or function of accomplishing that result, I should have no doubt as to the validity of the invention; but the difficulty, as it seems to me, arises from the fact that the patentee did not describe such means, nor had he discovered these means at the time of the patent. The discovery was a valuable one, and would seem to have involved more than mechanical skill. It resulted from subsequent investigation and invention, and it is therefore extremely doubtful whether it is within that class of cases where it is held that one who has plainly described and claimed his machine or combination has a right to every use to which his device can be applied, and to every way in which it can be utilized to perform its functions, whether or not the inventor was aware of all these uses or methods of use when he claimed and secured his patent.

The case of the National Hollow Brake-Beam Company vs. Interchangeable Brake-Beam Company, 106 Fed. Rep. 693, is perhaps the strongest case for the patentee. In that case, Hien described the means, but not the idea. He did not know that resiliency in the brake-beam would result from simply turning the nuts upon the ends of the tension-rod, and he was possibly not aware of the utility of the resiliency as an element in his device. This he discovered after the patent was issued, and the patent was sustained on the ground that the means described possessed the function necessary to produce the resiliency which subsequent experiments demonstrated to be useful and necessary.

The difficulty with the patent at bar would seem to be that Metz not only did not have the idea but did not describe the means; and the device which he had in mind and did describe had to be changed, as the result of the new discovery, by putting the system of screw-threads designed for one side upon the other side of the machine, and vice versa. If, as had been said, Mr. Metz, in connection with his other elements, had described the means for this automatic tightening, I should have no doubt as to the patentability of his combination; but his means, as it seems to me, result from a subsequent discovery of new means, and not from a discovery that the means described would perform the necessary function. In other words, the function of automatic tightening resulted from a discovery prior to his patent, through a rearrangement of the means described.

In this view, I must find and hold that the patent is invalid, and that the bill should be dismissed. Bill dismissed.

Judgment in the sum of \$97 has been obtained by the American Bicycle Co., New York, against Henry Kling.

CRANK-HANGER RIGIDITY

Important Part it Plays in a Bicycle's Running and Hill Climbing Qualities.

The thought often occurs: Does the average rider appreciate the difference in running qualities between two machines, one of which is built so that its hanger moves out of alignment at each pedal thrust, and one that has its construction so designed that even the long sustained thrusts on the pedals made necessary in hill climbing cannot make the hanger moves it out of alignment a hair's breadth?

This is an important factor in the easy running of bicycles, and if those who have a machine that seems to drag over soft roads or up hills will look into the matter they will probably find a solution in the above suggestion. To note the proof of this, take a machine that shows easy deflection and one that does not, and then try each one in hill climbing. The rigidity of the hanger can be found in the following simple manner. Grasp the frame under the saddle with one hand, and with the other hand take hold of the handlebar at the centre; now place one foot against the crank axle and push, at the same time pulling with one hand and pushing with the other. Note the amount of weave that the hanger is susceptible of giving.

In one type of English cross frame construction double tubes of small section run from a common lug at the head to lugs near the ends of the crank hanger; in other words, these lugs are relatively positioned like rear fork lugs. By many this is called the true cross frame, and those who have tried machines built on these lines are generally convinced that the extra tie thus furnished, the hanger, more completely contrive annihilation of whipping under hard driving. It is that which makes them notably good hill climbers and road machines. When suitably geared they would be equally advantageous on the track, and racing men would do well to give the matter trial. This stiffness only perceptibly shows when great stress is put on in driving, but it is valuable at all times, though perhaps not apparently so to those who go on without giving heed to the small things.

Gillard Goes West Again

S. E. Gillard, for the past six months manager of the export department of the Dunlop tires with the Hartford Rubber Works Co., has been made manager of the Chicago branch. Before the Dunlop was taken over by Hartford, Gillard occupied the same position.

May Amend Reasons.

At Hartford, Conn., last week, in the January session of the Connecticut Supreme Court, the defendant's motion to amend reasons of appeal was granted in the suit of the Indiana Bicycle Company against Constant L. Tuttle.

BALKS AT PRICES

Worcester Wants Motor Bicycles, Tandems and Cushion Frames but Talks Price.

When L. C. Havener, the veteran dealer of Worcester, Mass., was in New York last week he reflected the renewed interest and hopefulness that has come over the trade. Everything, he says, indicates an unusually good season.

"The one just past was so bad," he added, "that the one ahead is almost sure to be better; it cannot well be worse."

Havener was one of the first to interest himself in motorcycles, and he is still confident of a big future for the motor bicycle.

"It is only the price that is holding it back," he said, in speaking of the subject. "At \$100 or \$125 I could have sold my own Auto-Bi a dozen times over. I've had dozens of men tell me they will purchase as soon as the price comes down. I have been surprised, too, at the number of inquiries for motor tandems. There should be quite a few of them sold this year. Tandems are usually brutes on hills, and it is not alone weak riders who want motors to help them. I've had three or four of our local cracks inquire for them. They have no trouble in holding their own on the level, but it's the hill that worries them. They don't mind pushing, but they want something that will help them."

When the conversation drifted to cushion frames it developed that the Worcester veteran was a staunch devotee and advocate of the yielding frame. A remark of that New York veteran, Elliott Mason, to the effect that the man who rides a cushion frame bicycle for a month will never again ride a rigid frame chanced to be repeated.

"That's right," remarked Havener. "I've ridden one for two years and there's nothing like it. I can't get any comfort out of a rigid frame now. My wife puts it even stronger. She says a rigid frame is equal to torture. I've sold quite a few cushion frames, and tried to sell a good many more, but the price is the stumbling block. I don't know whether I've lost the knack of selling or whether the Worcester people are sticklers for low prices, but I can't get them to pay the difference even when they favor the machine. If we could get something like it at \$35 or \$40 I believe we could sell lots of them."

Orient Lowers Prices.

For 1902 the range of Orient bicycles has been considerably increased in the matter of both models and prices. The racer now lists at \$50; the Leader at \$50; the light roadster at \$40; ladies' light roadster, \$40; chainless (bevel gear), \$65; tandem, \$75, and motor bicycle, \$250. Two lower priced bicycles, styled the Waltham, are included in the line at \$30; on these models no options whatever are offered.

Obituary.

Marcellus Hartley, president of the Marcellus Hartley Company, the Remington Arms Company, the Union Metallic Cartridge Company and the Bridgeport Gun Implement Company, and a director or trustee in a dozen other corporations, died suddenly on Thursday afternoon last, while attending a regular weekly meeting of the Executive Committee of the American Surety Company. Mr. Hartley had been sitting at the writing table, and leaned forward apparently to pick up his eyeglasses. As he did not recover himself at once, his associates, seeing that something was wrong, went to his assistance. As he was helped back into his chair he gave a gasp and died. Acute indigestion is believed to have caused his death.

Mr. Hartley was born in 1828, and in 1854 started the firm of Schuyler, Hartley & Graham, which, under one name or another, has since been continuously in business. While firearms and ammunition were its chief stock, and the stock of its offshoots, Remington bicycles and pedals cut a considerable figure. Mr. Hartley had a varied and interesting career, and died a millionaire several times over.

Press dispatches from Lebanon, Penn., record the death there on January 11 of James L. Knoll, inventor of a spring frame bicycle, of which a large invoice is said to have been ordered recently for the British army in South Africa. Mr. Knoll died after two weeks' sickness of smallpox. He was eccentric in many ways. He violently opposed vaccination, and refused medical aid in the early stages of his illness.

Knoll's eccentricity was carried into his bicycle, which was illustrated in the *Bicycling World*. It was a weird and wonderful affair, which he advised be used without pneumatic tires. It may well be doubted that the British army ever ordered one of them, much less the "large number" stated by the newspaper reports.

Ernest F. Walton, who was among those killed in the tailend collision in the New York Central tunnel on Wednesday of last week, was well known in the cycle trade, having been one of the principals in the Tinkham Cycle Co., of this city. When he retired from the company some three years since he became a stockbroker, and at the time of his death was a member of a Wall Street firm. He leaves a widow and three young children. Walton left a will directing that his remains be cremated and his ashes thrown to the winds.

Among the New York suburbanites in the wrecked train who had a miraculous escape was Harris Parker, the manager of C. B. Barker & Co., Ltd. He was in the second car from the end, and jumped into the aisle at the first sound of the crash. He was one of a half dozen men who escaped without a scratch and who were free to move about, although buried in the wreckage for nearly half an hour.

TO ENFORCE PATENT

Tillinghast People Commence Proceedings Against Kokomo—Injunction Applied for.

That the Single Tube Automobile and Bicycle Tire Co. has made a move against the Kokomo Rubber Co. for its attitude toward the Tillinghast patent will cause no surprise. It was a move that was clearly foreshadowed; the only doubt was as to the exact form it would assume, and this developed last week; the Single Tube Co. applied for an injunction restraining Charles S. Knowles, the Kokomo representative in Boston, from selling the Kokomo tire.

The action of the Kokomo people themselves naturally will be awaited with interest. Some two years ago they took out a Tillinghast license, mainly, they stated, because it promised the maintenance of prices. When the licensees fell apart and began quoting indiscriminate figures the Kokomo Company did not join in the slashing. When Manager Spraker was in New York a few weeks since he stated that, having lived up to the prices set by the Tillinghast people, he felt it was "up to" them to make good.

Begins With a big Name.

As the result of mail order and other cut-throat competition that has ravaged the retail trade of the West there has come into existence in this city the United States Company, which purposes "to sell to the retailer at prices that will permit him to meet such rivalry." While hardware is the chief line occupying the promoters' attention, cycles and cycle sundries are on the list. The United States Company has been incorporated with a capital of \$50,000 and these officers: Fred H. Cozzens, president; Horace C. Hutchins, vice-president and treasurer, and R. W. Hall, secretary. Offices have been established in the Park Row Building. Mr. Cozzens, the president, was secretary of the National Association of Retail Hardware Dealers in 1900.

It is stated that warehouses will be located in New York and Chicago. The idea seems to be a modification of that which gave rise to the New England retail pool.

The Rush for Royals.

Gaston Plaintiff, for many years with the Waltham Mfg. Co., has been added to the staff of the Royal Motor Works. He leaves this week with a Royal motor bicycle that the dealers of Connecticut, Rhode Island and Massachusetts may "have a look" for themselves. That he has his work cut out for him may be judged from the fact that there is scarcely a place on his route list in which there are not two or more applicants for the Royal agency; indeed, in two of the larger cities there are eight applicants awaiting Plaintiff's investigation and recommendation.

NATIONAL BICYCLES

"Good Bicycles Only"

For years we have preached the truth that there is a safer, steadier and more prosperous business in a bicycle sold on its merits than in one sold on its price. The steadily increasing

number of customers on our books, satisfies us that our policy is right and that belief in it is growing among conservative but energetic dealers. Our old customers stay with us year after year and the new ones stay likewise. Try it for 1902 and find out why they do so. The NATIONAL to-day is made of the same grade of materials and with the same care as the first ones we manufactured. This year's proposition is a good one and the NATIONAL is in these days of uncertainties a good wheel to tie to.

"The good name that endures forever is counting for more than it ever counted before."

—*Bicycling World*, Dec. 12, 1901.

NATIONAL
CYCLE MFG. CO.
BAY CITY MICH.

Equal them—If you can.

Investigate the merits of other tires—find out what they are made of, how they are made and how much they cost. Then look up the

FISK TIRE.

It will stand investigation. It will stand comparison. It will stand use. Why? Because it is made right—right materials, right methods of construction.

You cannot find a better tire than the Fisk—you can easily find many that are inferior to it. All we ask is an investigation.

FISK RUBBER COMPANY, Chicopee Falls, Mass.

BOSTON,
604 Atlantic Ave.

SPRINGFIELD,
40 Dwight St.,

NEW YORK,
83 Chambers St.

PHILADELPHIA,
916 Arch St.

SYRACUSE,
423 So. Clinton St.

BUFFALO,
28 W. Genesee St.

DETROIT,
252 Jefferson Ave.

CHICAGO,
54 State St.

SAN FRANCISCO,
114 Second St.

THE BICYCLING WORLD

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and MOTORCYCLE REVIEW

In which is Incorporated
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Members of the trade are invited and are at all times welcome to make our office their headquarters while in New York; our facilities and information will be at their command.

To Facilitate Matters Our Patrons Should

Address us at P. O. Box 649.

NEW YORK, JANUARY 16, 1902.

The *Bicycling World* has added to its editorial staff Mr. E. L. Ferguson, former manager of the E. R. Thomas Motor Co. and of the Auto-Bi Co. Mr. Ferguson is no stranger to journalistic work, and brings to his new position a fund of practical and ripened experience with motors and motor bicycles, alike in their manufacture, sale, operation and care. The benefit of this experience will, of course, accrue to the advantage of the readers of the *Bicycling World*.

The Man who Knows it all.

There is nothing more pitiful than "the man who knows it all." Comparatively few men will admit that they are of this class, but occasionally there comes to the surface one who consciously or unconsciously betrays that the idea is concealed somewhere about his person.

One of these, a cycle dealer who stampeded to the automobile trade, crops out in the pages of a more or less esteemed contemporary whose mission on earth appears to be the publication of "trade puffs." The

journal in question also stampeded to the automobile industry, but is trying artmanly to hide the fact in the effort to hang on to the cycle trade's dollars as well. To keep its courage up and to justify its transparent straddle, the *Trade Puffers' Own* prints a letter from the know-it-all dealer in question. He commends its policy of giving small space to bicycles and much of it to automobiles, and says, in effect, that, having been engaged for thirteen years in the cycle trade, there is now nothing more for him to learn about bicycles; knowing all that there is to be known, he thinks it a waste of time to read anything further on the subject.

The instance is, perhaps, an isolated one, but the unformed or unexpressed idea is too generally lodged in all retail trades, and is the real cause of not a little discomfiture. Retailers live practically within the confines of their own stores. They have no interest in and small thought, if any, of the men, methods and affairs that go to make up the industry of which they are really a part. They have no conception of the worth of ideas or suggestions or of the interchange of ideas and opinions. Their one aim is to sell goods, and yet they do not set about it intelligently or well. They know that wool is wool, that hoes are hoes, that roses are red and violets blue, that sugar is sweet, and that each is worth so much per yard, per dozen or per pound, as the case may be. There their knowledge and desire for knowledge ends. They are unconscious know-it-alls.

If it were possible to go deep down it would probably be found that the reason why the 95 per cent of those engaged in business fail is the lack of common horse sense which should inspire every man to keep himself posted about anything and everything that pertains to the business in which he is engaged.

The drygoods man who fancies that because he knows that cloth is cloth, or the bicycle dealer who, like the one we have cited, fancies that there is nothing more for him to learn about bicycles, will never rise above mediocrity, if, indeed, he avoids going to smash.

The man who believes himself or his product or his profession is beyond perfection or improvement, or requires no further light or knowledge, is like the flower that, having bloomed and lost its beauty and fragrance, is about to wither.

"Of two agents, give me the one who receives and regularly reads the publications devoted to the industry in which he is en-

gaged," we once heard an astute manufacturer remark. "If he reads two or three of them so much the better. It is one of the surest signs of the live merchant—a sign that he is anxious to keep himself informed and is really interested in his business."

Who will say that the observation is not as sound as it is shrewd?

There is always hope for the man who does not know it all. He yet lives to learn. For the other kind—the know-it-all—there is none. His place is in the kingdom above—even though he may fall short of reaching it.

About Light Roadsters.

One of the remarkable things about the fluctuations of weights is the quietness with which they take place nowadays.

The marked increase which began not quite half a dozen years ago was noticed, of course. But for several years thereafter weights were piled up at a great rate, and comparatively little attention was paid to the matter. The decadence of "talking points" had something to do with this, but not all.

When this upward movement reached its culmination and the tide began to set in the opposite direction, after remaining stationary for awhile, the pathetic feeling had become still more pronounced.

There was talk about lighter weights coming in, but it was received with considerable incredulity and some indifference.

Only a couple of weeks ago, in commenting upon the disappearance of two distinct types of machines—light and full roadsters, respectively—we minimized the progress that has been made in the direction of lightness.

The ground was taken, and rightly, that it was the equipment which made the machine come out light or heavy, whereas in former years the two types were entirely dissimilar, even although the same equipment might be put on each. They were intended for different roads or riders, or both. They were consequently dissimilar in construction throughout.

At the present time the tendency is just the other way. As stated, equipment makes the machine, except in a few instances.

Nevertheless, there are being put out many machines of rational weight, machines which, judged by any standard, reflect credit on their makers.

On them the weight has been pared down materially, yet judiciously. Ounce by ounce it has been taken out, no single part being too severely attacked and no weakening of

the structure of the entire machine taking place.

Such machines come within measurable distance of the 20 pound mark. Yet they resemble in no essential particular the "feather-weights" which, in the early and middle nineties, brought such discredit on the name. On the contrary, they are stanch and capable of withstanding the severest usage. It scarcely needs to be added that they are usually the highest priced models on their makers' lists.

But the knowledge that there are such machines has not become a matter of wide public knowledge.

If the ordinarily well posted rider were asked if wheels were much lighter than three or four years ago the chances are that he would reply in the negative.

Even some of the people in the trade would fall into the same error.

Yet it is a fact that the careful buyer can obtain lighter machines, and this without sacrificing any of the qualities so desirable in a cycle intended for hard and extended use.

The L. A. W. and the Ostrich.

The Bicycling World has succeeded in arousing L. A. W. officialdom as it has not been aroused in many years. It has stirred the president of the organization to a high pitch of blackguardry, which in his wisdom he imagines is argument, and has provoked the so-called official organ into devoting discussion to the position and future of the organization which it is supposed to serve.

The president and the organ sing the same song: "The League lives only for good roads." Our suggestion that it was suffering from "an overdose of good roads" for the moment threw the duet out of tune. The fact does not, however, alter our opinion.

If the officials of the L. A. W. see fit to blind themselves to the fact that the organization is lacking in what may be termed human interest, the fault rests with them. We were with the League and for the League and working for good roads before the present president of the organization had come out of the Michigan woods and when the present publishers of the official organ were deep in the mysteries of journalism devoted to "Sam T. Jack's Creole Beauties," "May Howard Burlesquers" and others of that ilk.

But we do not decry good roads or their efforts to obtain them. We do not say that the campaign to that end should cease or suffer diminution of attention. There is

neither wheelman nor wheelwoman who should not lend their interest and support to the movement. The irrefutable fact remains that they have not done so and will not do so.

The good roads campaign is one that has been and must be carried on by the enthusiastic few for the benefit of the selfish and disinterested many. The assertion is borne out by existing conditions and is incontrovertible. League officials may, ostrichlike, hide their heads in the sand and refuse to see or admit the fact; but the ostrich performance will not help matters nor aid the organization. Despite its importance, the subject of "good roads" is a dry subject. It arouses no enthusiasm and small interest in everyday mankind; it is notorious that "good roads day," which was designed to

Nashville, Tenn., Jan. 8, 1902.

The Bicycling World, New York, N. Y.

Gentlemen:—Mr. J. F. Roy, of Alexandria, Tenn., was in our store a few days ago and inquired of us which was the best bicycle paper, as he wanted to subscribe. Our answer was that we knew of but one, and that one the Bicycling World. He handed us \$1 for six months' subscription, which we in turn send to you and request that you forward paper to Mr. Roy's address.

We would say further that we are in entire sympathy with the Bicycling World, especially in regard to the bicycle dealer sticking to the bicycle; we are not among the number who desire ten pages of motor news to one of bicycle news. Wishing you long life and prosperity, I am very truly,

DUNCAN R. DORRIS.

(A bicycle dealer who is not kicking.)

form a part of the L. A. W. National Assembly, was ever slimly attended even by L. A. W. officials.

If the L. A. W. is not to become the merest skeleton, if the aim is that it shall expand and not continue to contract, if the desire exists to increase the membership, it must be made attractive to the average man. The motor bicycle will reopen its field of general usefulness, but with or without motor bicycles there is much that may be done. We have already offered several suggestions of the sort. It is unnecessary to repeat them. The League officials can take them or leave them at their pleasure. One thing only is certain. Unless officers and committees are secured who will really work, and who will not try to sustain the organization on a steady diet of "good roads," it must inevitably become merely a reposeful and respectable "has been," composed only of the faithful few.

A correspondent in England sends us a page advertisement from one of the cycle papers over there and which shows what purports to be a view in a bicycle factory. In this there is a row of screw machines which are the most wonderful things we have ever been permitted to gaze upon. They seem to be constructed partly of boiler plate riveted together, with seams of approved style; but the funniest thing about them is that the workmen stand behind them and work the back tool slide from the rear, the usual levers, or such of them as are put in at the front of the machines, appearing to have nobody to work them. One who had not been in England might wonder if such machines are really used there, and if it is customary for the workman to go around to the front to perform the other necessary functions in the making of a piece.—American Machinist.

Fudge! Why, sir, it is these very machines that turn out the very best bicycles that the world has ever known or will ever know—bicycles, sir, which put to blush the American product, and the French and the German and the Austrian and the Hindoostan product, and every other old product of every other old place. Why, sir, the English cycling papers have so stated time and again; and surely the English cycling papers ought to know!

In former years, when a man rode 100 centuries during a year or rolled up 20,000 miles, the makers of the bicycle and of the tires he used would shout the facts from the housetops and make substantial capital of such performances. As a result the question, "What wheel (or tires) did he ride?" became paramount and did much to foster and spread cycling interest. Some pretty tall accomplishments in the way of mileage during the last twelvemonth are chronicled in another column. They suggest that a semblance of the old-time shouting might awaken not a few responsive echoes and persons.

The term high grade is not used so much as it was in times past, as the mail order and auction house dealers took the edge off. Every catalogue, show window and advertisement invariably contained the expression high grade, until it became meaningless and a thing to abandon. The makers of really good bicycles can afford to drop this superlative, and sell their machines by their names, which can be made sufficient to impress purchasers.

POINTS ON POINTS

Troubles That Arise in Motorcycle Sparking and Some Suggested Remedies.

Among other things connected with the motorcycle is a part much misunderstood in its ability to give trouble—misunderstood not only by users, but by makers. This part is the contact of the platinum points. The make and break is mechanical on all motorcycles. Examine any construction and you will find a piece of platinum, or some substitute, in the end of the screw, and another piece in the trembler or blade. These two pieces are supposed to be as nearly non-oxidizing as possible under electrical contacts, and while platinum is an excellent metal for the purpose it is not used to the extent that is supposed owing to its excessive cost. For best results, however, platinum should be used so far as present experi-

brass; it is obvious that for brazed-in tips they will have to be made of steel. This will mean, among other things, that they can be made smaller, and neater designing can be carried out in the makeup of the spark controller.

While on this subject of contact points it will be well to call attention to two important items, the second of which is little understood. First—Always have clean contacting surfaces. This is fairly well understood, but not always looked to. The second and little known, although very important, is the duration of contact.

Even those who should know better are frequently guilty of keeping the screw in the same position at all times in the life of the battery. To be more explicit. At some time in the use of the machine, and from many possible causes, some one will adjust the screw so that the blade is held in contact for a certain fixed time. As an example, one user may be told by another user that if the explosions or sparks are not good and regu-

SUBSTITUTE FOR NICKEL

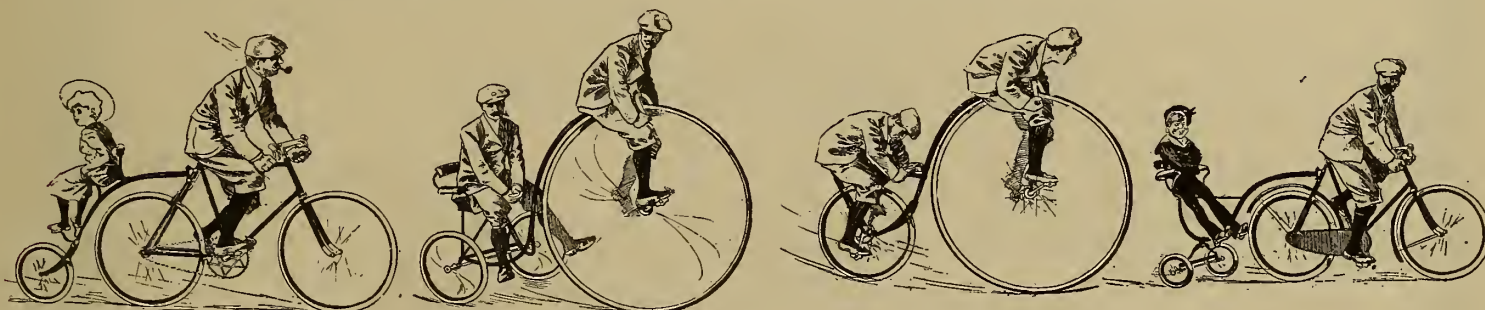
Galvanizing Suggested as a Finish Worthy of Serious Consideration.

Since the painted finish for bicycles went out of fashion, nearly a score of years ago, enamel and nickel, which took its place, have reigned supreme.

Neither is perfect—in fact, both are very far from being satisfactory. Nickel will rust, enamel will crack, and, sometimes, even rust. Both suffer in appearance from use no less than misuse. But it would not be easy to surpass them in this respect when new, and the pleasing contrast between the glossy enamel and the glittering nickel does much to strengthen their hold on the riding public.

Occasionally efforts have been made to substitute other styles of finish for these. Nickel has been the chief sufferer, enamel having encroached on it a number of times. Spokes finished in nickel have been more

WHO SAID THE LIMIT OF CYCLING INVENTION HAD BEEN REACHED?



FLIGHTS OF A CYCLING ARTIST'S FANCY.

ences go, and must be used if the following suggestions are to be carried out.

In the mechanical construction above referred to the two pieces of platinum are subjected to constant sharp and sudden shocks which frequently causes either one or both pieces to become somewhat loosened. This causes an electrical leakage or an arcing of the current each time the contact is made, and this arcing brings about the oxidization which shows to the eye as a black deposit and discoloration between the screw and flat spring. This, in turn, either gives a long, thin spark that is unable to overcome the resistance of compression, or else prevents any spark whatever taking place, thus bringing the motor to a stop. The intermittent explosions that sometimes seem unexplainable are frequently another result of the above conditions.

To remedy this state of affairs braze both pieces of platinum in their respective places and note the surprising results that will follow. It will be found that whatever else you may afterward discover, there has been at least one thing done to prevent loss of power, misfiring and motor-stopping altogether.

In connection with the above it is here pointed out that the screws now used will have to be changed in the metal employed. At present all contact screws are made of

lar it is because the contact is not strong enough, and the thing to do is to turn the screw further into its binder block, so that the blade will be pressed against it much more firmly.

At first blush it may seem that the mere act of a harder blow, a more violent coming together or, as here stated, a firmer contact, would make a difference. As a matter of fact, if the meeting surfaces are clean there can be had only a contact and that literally without comparative terms. It is true that the terms loose contact and firm contact are frequently used, but they can only be said to have any vogue because of convenience or for lack of better wording. Strictly speaking, there are but two conditions, contact and no contact.

When the advice is given to position the screw further in its binding block the thing that really takes place is to bring the two points into longer contact, a necessity brought about by the weakening of the battery. As the battery goes down motocyclists will often find that they can get many more miles of service if they will give duration of contact attention from time to time. But if this is done the mistake above noted—that of keeping the screw in the same position forever afterward—should be most carefully avoided. When a new set of cells are put to use turn the screw back and get the shortest possible contact; but be sure and not overdo it and loose the circuit. Remember, if the most power is wanted, so far as the spark effects it, and the spark effects most notably, that a snappy make and break is the thing to try for.

complained of than anything else, and at different times enamelled or half enamelled spokes have ruled. Hubs, bolts, nuts, etc., have also been talked of as parts that could be enamelled to advantage. But there has always been a reaction, the result being that the old nickelled finish has been returned to sooner or later.

It has been suggested that use might be made of some such process as that popularly known as galvanizing, by which iron is coated with a film of metallic zinc.

Buildings constructed of metal thus coated with zinc show wonderful power in resisting weather and its concomitant rust, and a bicycle prepared in this way would be a god-send to the busy man, while it would not look more unsightly than some of the machines which have been left to take care of themselves.

Size of Belts and Pulleys.

Will you please inform me what size belt is used on a motor bicycle, also smallest pulley?

LUCIUS TROMBLY.

[There is no fixed size of belts as yet in use, each maker using a size as thought best from his experiences. The belts in present use vary in width from $\frac{1}{2}$ inch to $1\frac{1}{4}$ inches. The smallest pulleys are those used on the engine, and these range in diameter from $2\frac{3}{4}$ to 6 inches.]

The Tillinghast Patent No. 497,971

has been HELD TO BE VALID by the United
States Court of Last Resort.

The Kokomo Rubber Co. is Infringing

this patent by manufacturing single tube
tires without a license.

**MANUFACTURERS,
DEALERS AND JOBBERS ARE
WARNED NOT TO BUY OR
SELL SUCH TIRES.**

A suit has been begun against the regular agent of the
Kokomo Company in Boston. The Kokomo
Company has not yet appeared to defend
the suit. Other suits will follow.

Single Tube Automobile and Bicycle Tire Co.

FRAME DESIGNS

American vs. British Policies—"Freak" That Made Real Featherweights Possible.

In this country the trade has seemingly settled down to a fixed idea that nothing can disturb the present diamond frame, and that the only things to look to from year to year are detail changes, that mean changes only and nothing else.

Abroad, that is, in England, this belief does not exist so markedly. Riders, dealers and makers are none of them satisfied to run along in the channels that have of late years become so popular here, and a result is that a constant tonic permeates the trade and sport that keeps matters on a much keener edge than is apparent in this country.

It is true that English publications now and then present to their readers undeniable freaks, and no doubt, with all their well known insular pride, they would be willing to admit the soft impeachment. On the other hand, the other equally well known English trait of grumbling keeps things stirred up to the degree that is here noted. And it might be better if we would take to heart some of the English ways.

Who is there that does not remember the days when there was not the present fixity and when makers were going forth in battle array to prove that some one or more feature was the best thing on earth? As was natural, all leaders found a large following if they were true leaders, and mighty cohorts rallied to the various banners and took up the battle cries. Strenuous were the arguments and keen the disputants over such points as weights, treads, wheel base, length of head, rake of fork, and relative positions of saddle and crankhanger. But all this is past, and we have settled down to the self-sufficient contentment that marks the so-called older civilization. That is one of the things that ails us.

Gibbon took several volumes in his monumental work on the "Decline and Fall of the Roman Empire" to show the causes and effects, and from this proved that as soon as the old mistress of the world settled down to self-sufficiency and contentment with things as they were, she was inevitably doomed. Her warriors became carpet knights, and in time tributaries became masters. The savages of the North, knowing nothing of finality in design or perfection of parts, breathing unrest and discontent with things merely because they were, in turn became masters, and have given the world the ever-since masters. The Chinese wall has bound in beauty of finish and odd design, but who can say that with the groundwork thus supplied that the breaking down of this wall will not give to the world something immeasurably better.

The bicycle of to-day in this country is afflicted with overcivilization, that robs it of warriors and assailants. Everybody is going along on a peace-at-any-price policy, with

the result that nobody thinks of buying except on occasions of actual needs. On the other hand, our British cousin believes, or is led to believe, that there is yet something better for him, and this keeps up both interest and demand.

Something like five or six years ago there appeared at one of the English shows a freak in frame construction. It was scoffed at, but its inventor, a Mr. Petersen, had faith in his works and went ahead in the making and marketing of his idea under the name of the cantilever cycle. Shortly after this a sample of this machine was brought to this country, and in time a few were made and sold in Chicago. The machine was made with soft soldered joints throughout, and weighed from 14 to 16 pounds. The first machine of this type built in this country was put up by a member of the Bicycling World staff, and has been in use from that time on, carrying riders weighing from 150 to 190 pounds over all kinds of roads, and has yet to have its first repair made. This machine weighs exactly 14 pounds and 14 ounces.

The lines of the frame of this machine were altogether too radical for even English acceptance, and but very few sales were made during the first year, although the price might have had some ruling in the matter at the construction. It has had an influence succeeding year saw an increase in its sales, and to-day the cantilever has a fairly good sale at a small advance over prevailing English prices. While British makers scoffed for all that, as traced through the crossframe construction, the desire for which is increasing in England.

Other than the fact that duplex tubes were used all through the construction, the difference between the cantilever and the diamond in frame lines was as follows: No top tubing was used; there were the usual lines from the lower head to the crankhanger, from the banger back to the rear axle, and from the hanger up to the saddle position. The extra lines ran from the upper head to the hanger, meeting the hanger at a point between the lower diagonal and the seat diagonal, and from the upper head to the rear axle.

In the crossframes now becoming popular in England the top tube is dropped in its line so that it runs from the seatpost cluster to a lug at the lower head, in union with the tube reaching from the hanger to this point. The added line is one that starts at the upper head and runs to different points with different makers. In some cases it runs to a point on the seat tube at a point parallel with the lower head. In other instances it is a continuation of this and stops at the rear axle, while in another well known type it runs from the top head to the crank hanger. These latter two are the best from the standpoint of construction, particularly if they are of the duplex order from end to end; that is, two tubes starting close together at the head and gradually separating as they run to the point of junction at their other ends.

In conclusion and while on this subject, it should be stated that the world's unpaced 24-hour record of 397 miles was made on September 30 on a cantilever bicycle.

SPIRITS REVIVING

How the Trade is Regaining Tone and Strength—Minneapolis as an Example.

Slowly but surely the heaven is working, and the trade is realizing that no inconsiderable share of the responsibility for the lessened interest in cycling as a pastime is due to its indifference.

The Minneapolis Cycle Trade Association, for example, will during the coming season make amends for its laches in this respect. Under the leadership of its president, H. S. Haynes, who has almost a national reputation for enterprises and intelligence, it will turn over a new leaf. Its members have come to realize that there is not the active interest in wheeling at present that there was a few seasons back, and something should be done to bring about a spirit of revival.

While Minneapolis is still one of the first cycling cities of the country, with a wheeling population of 35,000, there was a decided falling off last season in the use of the country paths.

The great majority of the riders used their wheels solely for convenience. The dealers realize it now is a business proposition to keep the interest alive for the use of the country paths.

At the meeting during the winter and early spring this condition will be discussed, and an attempt made to bring about a revival.

Some of the dealers are inclined to believe that the falling off in wheeling last year was not due to a lack in interest. President Haynes is quoted as saying:

"I believe the riders will be seen in greater numbers on the country paths the coming season than last. The weather was against us last summer. When the spring opened nicely in April there was great interest. But then followed a setback, with snow and rain, and the riding season was delayed. Then came the intense heat, and the riders were disgusted and rode very little.

"I feel satisfied that if conditions had been right there would have been more riding last year than at any time before. I believe the dealers should do something to encourage the pastime, however, and, with fair weather conditions, I look to a great deal of riding."

Holds Bicycles are Necessities.

The Falmouth County (England) Court has held that a bicycle is a necessity to young men, and must be paid for by their parents and guardians as such. The case was one in which defendant sought to escape liability on the plea that he was an infant. "I think a bicycle is a valuable thing and help for young men," said the judge. "It has become necessary for every young man, in order to keep him in good health." It is good to have testimony of this character from the judicial chair, although parents and guardians may spy a thorn in the pillow.

RACING

Nine of the ten teams entered for the six-days-eight-hours-a-day race at the Second Regiment Armory track, Philadelphia, started at the crack of the pistol, January 13, at 2:47 p. m. About 1,000 persons were fringed around the twelve lap track, shaped like a huge bowl, the ends being banked to 70 degrees. When the first day closed seven teams were still on the track, four teams being tied for first place.

All afternoon the men rode at the rate of twenty miles an hour; there was frequent sprinting, but the field kept well bunched until 4 o'clock, when Gougoltz made a terrific spurt, followed by Maya, Rutz, Munroe and Fulton; these five in a few minutes gained a lap on the other four riders.

Accidents were few. Turville, soon after the race started, broke his chain, but, in accordance with the rules, the laps lost were allowed him. The nine teams which started in the race were paired off as follows: Gougoltz and Wilson, Munroe and McEachern, Leander and Rutz, Freeman and Maya, Hadfield and King, Fisher and Chevalier, Muller and Barclay, Fulton and Sullivan and Lawson and Turville.

At 8:30 o'clock Turville withdrew from the race, his partner, Lawson, being threatened with pneumonia. At the same time Sullivan and Fulton withdrew owing to lack of condition. During the evening Munroe and Hadfield had falls, due to collisions, but both were allowed their lost laps.

As a result of sharp and frequent sprinting the riders cannot get to their quarters for a rub; cots have been brought to the track side, where the men recline during their resting moments, many of the teams changing at intervals of twenty minutes.

The first day ended in a heart breaking sprint, Freeman, Leander and Munroe drawing half a lap away from McEachern and Chevalier; Barclay was lapped twice at the finish.

The score at the end of the first day's riding (eight hours) stood as follows:

	Miles.	Laps.
Munroe and McEachern.....	175	6
Leander and Rutz.....	175	6
Wilson and Gougoltz.....	175	6
Freeman and Maya.....	175	6
Hadfield and King.....	175	5
Fisher and Chevalier.....	175	5
Muller and Barclay.....	174	11

Champion, on a motor bicycle, succeeded in breaking the indoor mile record. His time, 1:25 1-5, cuts four-fifths of a second off the previous best.

A much larger crowd than on the opening day greeted the six-day riders Tuesday afternoon. The Armory was crowded and enthusiasm was at a high pitch. Sprinting was the order of the day. During the afternoon Leander broke the sprocket of his wheel and was thrown heavily, bringing down Hadfield, who was riding directly behind. Hadfield and King were lapped in a sprint led by Freeman and Wilson.

The score at the end of the second day's riding, sixteen hours, stood as follows:

	Miles.	Laps.
Leander and Rutz.....	347	6
Monroe and McEachern.....	347	6
Freeman and Mayo.....	347	6
Gougoltz and Wilson.....	347	6
Chevalier and Fisher.....	347	5
Hadfield and King.....	347	3
Mueller and Barclay.....	346	8

Champion, on a motor bicycle, again lowered the indoor record to 1:25, and later in the evening still further reduced the figures by clipping off two more seconds.

In a 15-mile motor paced race at the Second Regiment Armory track, Philadelphia, January 8, Munroe defeated Turville by 2½ laps in 26:54 3-5. This race was substituted in place of one which was to have occurred between Michael and McFarland, called off owing to the suspension of the latter rider. De Rociers, on a motor bicycle, broke the world's mile record of 1:26 4-5, held by Champion, reducing the figures to 1:26 even. Hadfield easily disposed of Lawson in a pursuit race, overtaking him in two miles in 4:52 4-5.

An exciting fifteen mile motor paced race took place January 11 on the Second Regiment Armory track, Philadelphia, between Munroe, McEachern and Turville. At the start Turville cut out a fierce pace, but was unable to overtake his opponents. The pace seemed to tell on Turville in the second mile, Munroe and McEachern lapping him three times. Some exciting sprinting occurred in the fifth mile, McEachern fighting every inch of the way, but Munroe would not be denied, and finally succeeded in gaining a lap. In the fourteenth mile McEachern went around Turville for the fourth time, Munroe following him closely for the fifth. In this lap Munroe made a last effort to pass McEachern once more, but failing, fell behind, the riders finishing the race in the same relative positions as when they started, with Munroe one lap ahead of McEachern and five laps in front of Turville. The time for the fifteen miles was 25:02 3-5. Champion made an attempt to lower the mile record. He succeeded in equalling it, but not in lowering the time—1:26.

William A. Brady has won his suit against James C. Kennedy and Patrick Powers. As a result, the latter have been ordered by Justice Scott of the New York Supreme Court to turn over to Wilbur McBride, as receiver, \$22,139 23, Brady's share of the profits in the six-day race held in Madison Square Garden in 1900. Originally the three were partners, but Powers and Kennedy attempted a game of freeze out, but Brady would not stand for it, and went to law.

Floyd McFarland, Otto Maya, George Leander, William A. Rutz, Benjamin Munroe and Howard B. Freeman have brought suit in the Massachusetts Superior Court against Alexander McLean to recover the prize money and incidental damages due them from the recent six-day races in Boston. The total amount fixed by the several plaintiffs is \$8,000.

ODDS AND ENDS

At the Paris Cycle and Automobile Show the two types of vehicle were almost equally represented; 693 automobiles and 645 bicycles were exhibited.

The British pace followers "go in" for abnormal gears. Platt-Betts, for instance, uses 7½ inch cranks and 148 gear, and Chase 6½ inch cranks and 128 gear.

In France all motorcycles must now carry a conspicuously numbered license plate; the law applies to all vehicles capable of travelling 30 kilometres (18½ miles) or more.

All motor bicycles in Great Britain must be equipped with two separate brakes. They come within the scope of the "light locomotive" act, which requires such brake power.

According to the most recent census estimates the population of the United States, including all possessions, is 84,233,069, of whom 75,994,575 are in the United States proper.

Under the title Le Syndicate pour la Defense de la Petite Industrie Velocipedique, a new association has just been formed in Paris to look after the interests of the cycle-assembling trade.

Of a published list of 53 concerns engaged in the English cycle trade, 40 paid a profit during 1901, nine lost money and four went into bankruptcy. Of the unlucky thirteen three were tubing manufacturers.

One Nightingall, of Dublin, Ireland, has "invented" a small magnifying glass which clips over the dial of the Veeder cyclometer. It is designed, of course, to enlarge the figures and render them more easily readable from the saddle.

In walking a mile it is estimated a man averages 2,000 steps, and at the same time he has to bear the weight of his body. The average cyclist takes 600 "steps" to cover the same distance, and requires far less force to get over the distance.

"Motor Cycling" is the name of a new weekly publication which will begin business next month in London. As its title indicates, it will be devoted exclusively to the interests of motorcycles. As the proprietors are already publishing a cycling journal, the new venture looks like an unnecessary and greedy attempt to "milk" the same trade twice.

Despite General Buller's scathing condemnation of bicycles for military use, a Cape Town paper states that for scouting purposes the Cape Colony Cycle Corps has abundantly proven the bicycle to be the superior of the horse. It adds succinctly: "Not only do bicycles require no fodder, but new tires may be affixed to bicycles, while the attachment of new legs to the horse is beyond the ken of man."

MILEAGE "FIENDS" OF 1901

The Men who won Medals for Doing Centuries and Thousands of Miles.

Brooklyn, N. Y., turned out to be the home of both the champion "mileage fiend" and the champion "century fiend" of 1901. The fact is disclosed by the awards of the Century Road Club of America, which have just been made public.

The first medal for centuries is won by L. T. Singer, of Brooklyn, with 113 centuries. This includes 10 doubles, 9 triples, 2 "quads," 2 "quints" and 1 sextuple. In addition to the State Century Medal, Mr. Singer also wins the first national medal for centuries, and also the second national medal for mileage, with 19,292 miles to his credit.

The New-York State medal for mileage is won by Spencer W. Stewart, of Brooklyn, with 22,038 miles. Stewart also wins the national mileage medal and the second national medal for centuries, with 101 runs, including 15 doubles, 6 triples, 1 "quad" and 1 "quint."

The competition for the last half of 1901, for which two medals for centuries were offered, was won by J. G. Stiefel, of Buffalo, with 33 centuries, and second prize by Gilbert C. Badeau, of Far Rockaway, with 28 centuries. These two had an exciting struggle, passing and repassing each other almost every week.

During the year fourteen members of the New York Division rode ten or more centuries, as follows:

	Centuries.
L. T. Singer, Brooklyn.....	113
Spencer W. Stewart, Brooklyn.....	101
Henry Veit, Brooklyn.....	63
Gilbert C. Badeau, Far Rockaway.....	50
George W. Wall, New York.....	36
J. G. Stiefel, Buffalo.....	34
G. R. Singer, Brooklyn.....	27
Thomas J. Moore, New York.....	20
Charles Gantert, Freeport.....	16
A. J. Meyer, jr., Buffalo.....	15
W. G. Meister, Brooklyn.....	14
John H. Boyd, Albany.....	14
Herman A. Berls, New York.....	11
S. Holleb, Brooklyn.....	10

The Century Road Club Association, composed of the "rebels" from the older organization, has also announced its awards. Harry Early, Bayonne, N. J., with a record of 14,032 miles, gets the mileage medal; G. C. Badeau, Far Rockaway, N. Y., with 9,933 miles, was second. The century championship goes to Henry Veit of Brooklyn. His record of 1901 was 61 centuries, including 1 quadruple, 5 triple, and 6 double century runs. Isaac Gillett, of Watervliet, N. Y., won second place by riding 44 centuries over the hilly roads in his part of the State.

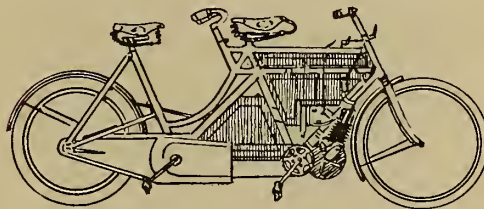
Bradstreet's places the total number of failures in the United States during 1901 at 10,657, with assets of \$61,168,333, and liabilities of \$129,978,838. The percentage of failures was slightly higher than in 1899 and 1900, but lower than any previous year since 1892.

"Cellaritis," the City Cyclist's Affliction.

"Cellaritis" is the disease which has afflicted cycling in the larger cities, according to the diagnosis and discovery of Dr. A. Schwalbach of Brooklyn. "Cellaritis," he explains, is induced by that laziness or lassitude which prevents cyclists from donning cycling garb and carrying their wheels from "below stairs." The disease has, he says, been responsible for an increase of blood sluggishness and brain cobwebs during the past two years.

German Exports Still Gaining.

Like England, Germany's improved cycle export trade continues. The returns for the ten months ending October last show a total of 1,611 tons, as against 1,422 tons in the first ten months of 1900. On the other hand, a steady decrease is taking place in the imports of foreign cycles and parts into Germany. During the first ten months of the year such imports only amounted to 233 tons, as compared with 357 tons in the corresponding period of 1900.



FIRST "LADY BACK" MOTOR TANDEM.

For Soldering Aluminum.

For aluminum solder the following was recommended by a speaker before the Society of Arts: 28 pounds block tin, 14 pounds phosphor tin—10 per cent. phosphorus—3.5 pounds lead and 7 pounds spelter. For using it these instructions were given: Clean off all dirt and grease from the surface of the metal with benzine, apply the solder with a copper bit, and when the molten solder covers the surface of the metal scratch through the solder with a wire brush, by which means the oxide is broken and taken up. Quick manipulation is necessary.

Where "Rat-trap" Came From.

It is safe to say that the average cyclist imagines that the term "rat-trap," as applied to pedals, is derived in some way from the instrument designed to rid the world of the rodents. It will therefore come as a surprise to many to learn that the term springs from the French word "rattraper," to take, to catch, to recover—at least, this is the explanation that comes from across the sea.

Hussey Making Great Headway.

One of the most notable and apparent advances is that being scored by the Hussey adjustable handlebar. It is being quite generally stocked, and it seems as if the claim of its makers, the Snell Cycle Fittings Co., that more Husseys will be sold during 1902 than all other adjustable bars will be made good.

LONG CRANKS—HIGH GEAR

"Godsend" for a Certain Class of Riders, Says an Authority, and why.

Our views on the question of long cranks and high gears are very emphatic, says the Irish Cyclist. The combination has come as a perfect godsend to thousands of cyclists, and of the very class who most needed assistance in their cycling. As a rule, they appeal not to the man who is habitually fit, whose heart and lungs are well developed and sound, and who can pedal a low gear at racing speed without getting exhausted. These men make most stir in the cycling world, and their opinions carry most weight.

There are, however, vast numbers of cyclists who don't ride sufficiently to remain in a state of fitness, who rarely travel fast, whose wind is poor, and whose hearts are not calculated to stand the severe strain of rapid pedalling. To these men a low gear is very distressing, and even harmful if they make any attempt at pace, whereas the long, steady swing of high gear and long cranks makes no special call on their hearts or lungs, and consequently they get better results from the combination. We are not theorizing. We know of many examples.

Even amongst the class of expert riders there are those who find the combination useful. It may be that, although they are good riders, their heart and lung power is not of the best; but we are inclined to think that there is more than this in it, and that the relative proportions of the thigh, leg and ankle bones, which form the series of levers used in propelling a bicycle, have something to say to it.

Be that as it may, we see no reason why a man should condemn anything unreservedly because it does not suit his own idiosyncrasies, and least of all if he has not carefully experimented with that which he condemns. It would be an analogous case if we, in our capacity as editor of the Irish Cyclist, were to recommend unreservedly the use of low gears to all our readers because it suits us personally, or if the members of our staff who find high gears and long cranks advantageous were to characterize all those who still use low gears and moderate cranks as stupid ignoramuses.

We should strongly advise all cyclists who have the chance to experiment with long cranks and high gears, but more especially those who suffer from weak hearts or lungs.

Acme Grows Active Again.

After hiding their light under a bushel for some time the Acme Cycle Co., Elkhart, Ind., have come out into the glare and promise to make things interesting for agents who incline that way. "Good bicycles at medium prices" is their motto, they say, and it is not to be denied that they are stylish lookers as well. They range in price from \$50 to \$35. A line of juveniles at \$18, \$20 and \$22.50 is also listed.

PATENT OFFICE PUZZLED

Peculiar Situation Caused by two Claims for same Changeable Gear.

In a case involving a bicycle gearing and entitled "Ex-parte Thompson," but in which no particular patents are cited, United States Patent Commissioner Allen points out the unusual situation that arose, and renders the following ruling:

The Primary Examiner calls attention to a peculiar situation involving the above entitled application and asks for instructions as to the action which should be taken.

The applicant's invention relates to a means for changing the gearing and thereby the speed of a bicycle by back pressure upon the pedals. The real invention resides in this means, but the applicant shows it applied to a chain bicycle, and includes the sprocket wheel as an element of the combination in his claims.

Another applicant discloses the same means for changing the gearing, but applies it to a chainless bicycle, and includes the bevel gear as an element of the combination. It is apparent, therefore, that neither party can make a claim in the words of the other party's claim, but the real invention upon which the claims would be allowed is the same in both cases. It would clearly not be proper to allow both cases so long as the Office is of the opinion that neither device is patentable over the other. Assuming that the Examiner's position is correct, one party is entitled to a patent, but not both, and this Office does not know which is the prior inventor and entitled to a patent.

It seems clear that there should be an interference and that in no other way can this Office properly dispose of the two cases unless one party concedes priority to the other, under the interference rules. The Examiner says:

"Under the existing practice, however, I have not felt at liberty to suggest the omission from any of these claims or the elements referred to, and I submit these cases with a request for instruction as to the steps to be taken to effect an interference between these two substantially the same inventions, if in your judgment any such step should be taken."

It was announced in *Wolfenden v. Price* (83 O. J., 1801) and *Streat v. Freckleton* (87 O. G., 695) that the Office cannot say that an element included in a claim is immaterial, and therefore the Examiner is of the opinion that he cannot declare an interference in this case with either party's claim as the issue, since the other party could not make it and there would be no interference in fact as to it. He could not, furthermore, formulate an issue broader than either of the claims, leaving out the limitations to the sprocket wheel and bevel gear, under the decision in *Hammond v. Hart* (83 O. G., 743), wherein it was said:

"The Examiner has constructed the issues out of Hart's claims 4 and 5. In other words, the Examiner has made two new issues, neither of which is an allowed claim made by either party. I believe this to be bad practice. The applicants should make the issues by their claims."

Rule 96 permits the Examiner to suggest to one party an allowable claim made by another, so as to bring about a proper interference, when they are both claiming the same thing in different ways, but it does not in terms permit the suggestion to both parties of a claim not made by either. The suggestion of such a claim, however, in a case like the present to cover the real invention common to the two cases clearly comes within the spirit of the rule. The purpose of the rule and the recent practice of the Office are not to avoid interferences between applications because of some differences in the form of the claims, but merely by suggestions to bring the parties together upon an issue which shall be as nearly as possible the same as the claims of the parties, so as to reduce to a minimum the chances for motions and controversies during the progress of the interference based upon differences in the claims. There is nothing in the rule which prohibits the suggestion of a claim to constitute the issue in a case of this kind, and the suggestion would be in accordance with the general purpose of the rule.

It is not believed that the decisions cited and others of the same character were intended to mean that there is in law no interference in fact in a case of this kind, where the real invention claimed is the same in both cases, merely because the claims differ in the statement of the specific form of one of the elements of the combination. If those specific elements are the mechanical equivalents of each other, there is an interference under the well settled principles of law. (*Winans v. Denmead*, 15 How., 330; *Rodebaugh v. Jackson*, 47 O. G., 658; *Reece Button-Hole Co. v. Globe Co.*, 67 O. G., 720.) Each party's device would infringe the other's claim under the doctrine of mechanical equivalents, and under such circumstances it can scarcely be said that there is no conflict.

In reference to the Office decisions to the effect that an element included in a claim or the issue cannot be regarded as immaterial, I said in *Braucht v. Murdoch* (71 MS. Dec., 492):

"It is not understood that on the question of interference in fact these decisions intend to exclude from consideration the doctrine of mechanical equivalents. An element included in one claim cannot be held to be immaterial where there is no corresponding element in the other claim, but where there is a corresponding element the question whether they are mechanical equivalents must be determined. Where the elements are well known mechanical equivalents in the combination, the structures are under the law regarded as substantially the same and there is an interference in fact."

In regard to the court decisions that a party is bound by the limitations in his claims it was said in *Rodebaugh v. Jackson*, above cited:

"So all that was said in *Fay v. Cordesman* (109 U. S., 420) is that if the patentee specified any element as entering into the combination he makes such element material, and the court cannot declare it to be immaterial. It is his province to make his own claim and his privilege to restrict it. If it be a claim to a combination and be restricted to specified elements, all must be regarded as material, leaving open only the question whether an omitted part is filled by an equivalent device or instrumentality. There is nothing in any of these cases inconsistent with what had been previously regarded as well settled, or to lead one to believe that it was the intention of the court to debar the patentee from his right to pursue an infringer who has endeavored to avoid his patent by the use of a well recognized mechanical equivalent."

This seems to be the only proper construction of the law, and under it the Office might in this case properly declare an interference upon an issue which is the claim of one of the parties, upon the ground that the corresponding elements in the other party's claim are equivalents, if it were not possible to bring the claims into such form as to avoid all controversies upon the question of equivalence.

The present applications are pending and subject to amendment, however, and it is deemed best, in accordance with the principles of the present practice, to suggest a claim to each party which will cover the real invention common to the two cases, leaving out limitations to the form of elements which are not of the essence of the invention.

The Examiner will suggest a claim to the parties in accordance with this decision.

The Retail Record.

New Haven, Conn.—A. C. Benham has sold out.

Berlin, Wis.—E. C. & J. B. Diebler succeed the J. B. Diebler Cycle Works.

Allentown, Pa.—Goldberg & Arance succeed the Goldberg Bicycle Works.

Port Gibson, N. Y.—Frank Blossom, Atwater and Canada streets, new store.

Rochester, N. Y.—The American Flyer Bicycle Co., 85 and 87 East Main street, has closed its doors.

San Leandro, Cal.—Roberts & King succeed M. C. King, Andrew Roberts having purchased an interest.

New York—The Nason-Ryder Co., 25 West 42d street. William C. Arnold has been appointed temporary receiver on the application of Edward B. Ryder and W. L. Savage, directors.

Werner Claims the Word.

The manufacturers of the Werner motor bicycle are taking legal proceedings against all competitors employing the term "motor-cyclette." They claim the invention of the word and its first use, and believe themselves to be entitled to its copyright.

THE CHANGE OF "COPY"

One of the Prime Reasons Why Many Advertisers Fail of Effectiveness.

The other day a discomfited manufacturer from England went back home and tried to explain why he and his fellows were being outstripped in trade by the ubiquitous American, says the Trade Press.

"One of the chief reasons," he said, "is that we Englishmen are in deadly fear of anything new. The American manufacturer, on the other hand, if he's told of a process that's new, investigates it at once, precisely because it is new."

Exactly so. And that's why the advertising pages of the trade paper are scanned from top to bottom. That's why a thousand eager eyes turn from the body of the book to the back or the front, where advertising tales of newness, economy and improvement are told.

And the man who has something to say and says it in a hard headed, smashing, forceful sort of way—or any way at all that drives it home to the mind of the reader—he is the man who makes money out of trade paper advertising. To a man who appreciates the possibilities of trade paper publicity—who knows how many dollars could be taken out for the dollars that are put in—it is little short of maddening to mark the criminal carelessness that is shown in the preparation of "copy."

Advertising, stripped of its complexities, is simply the science of saying things that will sell goods.

Trade paper advertising does not differ from any other form of advertising in its ultimate aim. If it contains the little intangible something that makes a man dig down into his pocket and pull out a dollar, it is good advertising. If it fails in this, it is not worth the paper it is printed on.

There is a direct relation between the duties of the clerk behind the counter, the salesman on the road, and the man who essays to prepare a trade paper announcement.

The only difference is in the size and character of the audience addressed. In the first two instances there is usually an audience of one; in the last, there is an army of prospective buyers waiting for the persuasive word.

The clerk who stood behind the counter, or the salesman who stepped into an office and announced in a declamatory tone of voice that he had a large line of goods and was prepared to quote the lowest possible prices, would be set down as a hopeless incompetent or an incipient idiot.

And yet how many hundreds of manufacturers, jobbers and agents adopt that same bald, lifeless tone in their trade paper advertising?

If every trade paper patron would bear in mind the character of his audience; if he would remember as he wrote his announce-

ment that it was going to be read by big, brainy, broad minded business men; if he would consider the complete hopelessness of trying to interest or impress such sharp, shrewd men by a bare recital of the fact that he was in business and wanted their trade—how much more fruitful would be the results of his advertising labors?

The manufacturer has the brains, he's got the money, he's got the medium, and he's got the goods—and yet he will permit the same old stereotyped announcement to appear month after month, and sometimes year after year, without so much as an effort to realize on his advertising investment.

A simple cut, a striking design, neat typography, forceful wording—any one of these, perhaps, would pull his announcement out of the mire of mediocrity and set it to earning dividends.

The necessity for these elements of interest is greater in trade paper advertising than al-



NEW YORK BRANCH: 214-216 WEST 47TH STREET

most any other kind of publicity. The man who reads these advertisements is a business man above all else. He reads for information, not for pleasure. If he has a purchase in prospect it is probably a purchase that means a heavy investment. He doesn't want to be entertained or amused or bored. The announcement that the Keokuk Mfg. Co. sells the Peerless gas engine does not create so much as a tremor in his pocketbook. And yet, being merely a man, he is susceptible to impressions; and if the advertiser goes at him with the right sort of vigor and intelligence he will at least instill a germ of interest that may grow.

The Advance Agent of Salemanship.

Advertising is the advance agent of salemanship. It saves the salesman's time, saves argument, keeps up his faith and courage, enabling him to cover the most territory at the least expense, and consequently makes him the greatest source of profit to his employers, sagely remarks Advertising Experience.

HOW WRENCHES ARE RUINED

Small Carelessnesses of Which Riders and Workmen are Alike Guilty.

That among the millions of cyclists using monkey wrenches there should be but thousands who know how to properly use them is to be regretted. But of the thousands of workmen, repairers, etc., that there are only hundreds who know how almost merits strong language.

When you watch workmen or take the time to look over their tools it is surprising and grievous to note how few of the former deserve praise and how many of the latter deserve retirement to some home for decrepit incurables. Whether the conditions come from ignorance or carelessness makes no difference; the results are equally gross and deserving of censure, particularly when the result has been to round off or otherwise batter a nut or other part of your machine that you have trusted to the workman's gentle handling.

No matter how good the quality of the wrench or repairer, it will be found that the proportion of eight out of ten will have the jaws spread and the corners and edges rounded and lipped. On monkey wrenches it will also be found that their adjustable advantages have been materially reduced in range, as the back has been so sprung that the sliding jaw pinches in trying to go round the bend. That the wrench has been used as a sledge hammer or that a 4-inch wrench has been put to work at something needing one three times its size is a mere detail.

The back-bending, jaw-twisting act that brings about the complaints above outlined is the use of a wrench back end to. It is regrettable on the part of the average human being, but it is criminal on the part of a workman. Instead of being placed around the nut so that the strain will come at the inner ends of the jaws, just the reverse is the method so badly employed, and the strain comes out at the ends of jaws, only to strain them apart, and the wrench is forever after slipping off if put on the wrong way, and depending on but a slight margin of cramp to do its work if put on in the correct way. The jaws should always point in the direction of the turning. If a nut is tight and is to be momentarily loosened and then tightened again, there are few workmen, even though they have put the wrench on correctly the first time, that will take the time or trouble to reverse the wrench. Those who know better excuse themselves on the plea that saving in time warrants them in the wrong handling. This is not true, as they invariably use up excess time in trying to strain the nut firmly home with the jaws of the wrench giving under the process. This same man is perhaps the one who goes oftenest to the tool grinder because he won't work with a dull tool.

Tourist Cars on the Nickel Plate Road.

Semi-weekly transcontinental tourist cars between the Atlantic and the Pacific coasts are operated by the Nickel Plate and its connections. Tourist cars referred to afford the same sleeping accommodations, with same class of mattress and other bedclothing, that are provided in the regular Pullman sleeping car service. These tourist cars leave

Boston on Mondays and Wednesdays, and leave San Francisco on Tuesdays and Fridays. Berths in these tourist cars are sold at greatly reduced rates. Conveniences are offered without extra cost, for heating food, or preparing tea or coffee, affording every facility for comfort on a long journey, especially for families travelling with children. Lowest rates may be obtained always via

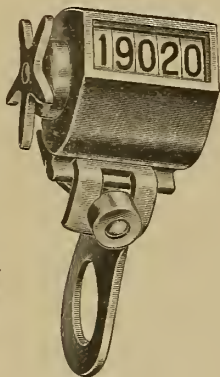
the Nickel Plate Road for all points in the West. For special information regarding all trains on the Nickel Plate Road, including these tourist cars, consult your nearest ticket agent, or write A. W. Ecclestone, D. D. Agt., 385 Broadway, New York City. ***

"How to Drive a Motorcycle." See "Motorcycles and How to Manage Them." \$1. The Goodman Co., Box 649, New York. ***

Veeder Cyclometers

STAND ALONE.

10,000 Miles
and Repeat.



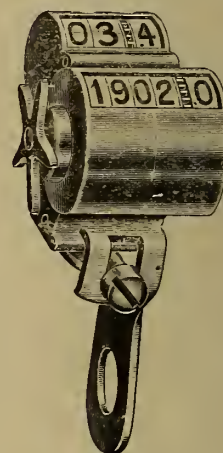
ACTUAL SIZE.

Competition has been silenced by sheer
... SUPERIORITY ...

Wheelmen no longer ask for a "CYCLOMETER."
They ask for a "VEEDER."
Those two words are synonymous.

Dealers can secure them from any jobber of consequence in the
United States. They are on sale in every
civilized country in the world.

10 000 Miles and Repeat
and Trip.



ACTUAL SIZE.

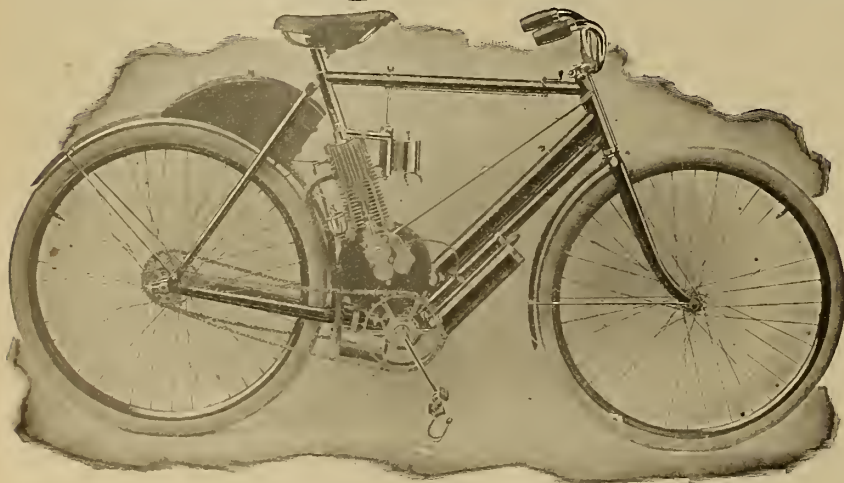
Makers of CYCLOMETERS,
ODOMETERS,
COUNTERS,
FINE CASTINGS.

THE VEEDER MFG. CO.,

CATALOGUE FREE.

HARTFORD, CONN.

"The Big Chief of the Hendee Tribe"



That about describes the position
of the

Indian Motor Bicycle

as it is but the leader of our line. We have other Indians—pedal-propelled Indians at \$25.00, \$30.00 and \$35.00 and like the "Big Chief," they are of the kind that make easy the capture of customers.

If you desire to

Make the Scalp Locks Stand

on the heads of your rivals, the Indian Agency will help you do it.

HENDEE MANUFACTURING COMPANY, Springfield, Mass.

Why Worry Over the Question: OIL OR GAS?

Why not get a
LAMP THAT BURNS BOTH?

In other words
Why not get

THE ADMIRAL



THE ONLY LAMP

on the market in which kerosene or carbide may be used with equal facility.

It was a splendid seller during 1901; it will be a better one during 1902. Properly presented, no rider can fail to see the advantages of the lamp that permits him to use oil or gas "at his own sweet will."

THE ADMIRAL LAMP COMPANY,
MARYSVILLE, OHIO.

OILERS.

"PERFECT"



25c.

"GEM"



"LEADER"



10c.

"STAR"



We make oilers for almost the entire trade. The quality of our oilers is unequalled.

CUSHMAN & DENISON, Mfrs. 240-2 W. 23d St. N. Y.

Light on the Brazier.

One thing that the man at the brazing forge demands imperatively is a good light. Without it he can never be sure of his work, and, as everybody in the trade knows, nothing can do a machine more harm and keep it up longer than poor brazing.

By his eye does the brazier ascertain the lay of the land. The changing colors of the tubing and of the spelter tell him the whole story. He is even able to detect the brass running in the inside of the joint, seeking every opening no matter how minute and filling every crevice. If the light is too poor to follow this it becomes a matter of guesswork. The brazier might almost as well shut his eyes, leave the work in the flame a certain time, and then take it out expecting that it will turn out all right.

A well brazed joint is a very colossus for strength. The brass penetrates everywhere and unites the two metals indissolubly. Attempt to tear the surfaces apart and the steel will fracture before the brass will give way.

"Job lot" Bait no Longer Tempting.

The "job lot," "closing out slaughter" and other well known reasons for sales have been so overworked in advertising that most people are aware of their sham. Probably there will be a change in the tenor of such publicity ere long, though it is difficult to say what form it will take, prophesies Printer's Ink. The store which advertises good wares at a decent profit, dwelling upon quality and reliability, probably succeeds as well as the establishment which is continually in the throes of its mistakes in buying and efforts to help the manufacturer unload. In the case of the department stores the special sale is likely to last a long while yet, but some of the better known New York advertisers never use the price reduction sale as an argument in their ads, or use it so rarely that it is always effective by way of contrast.

Aluminum Vise Jaws.

No vise is complete without a pair of jaws made of copper or some other metal soft enough to hold the part which is being held without marking it. A machinist has been experimenting with aluminum for this purpose, and with excellent results.

"Jaws made of this comparatively new metal are much better than copper," he says, "in that the work is less liable to be marred, and if sheet brass is more expensive, area for area, than aluminum of the same gauge, I should think the aluminum vise jaw would be cheaper where it can be obtained. The sheet metal can readily be bent into the desired shape, but if cast aluminum is used it will not stand much bending. I prefer the cast metal about one-eighth inch thick."

"Defects (in motorcycles) and How to Remedy Them." See "Motorcycles and How to Manage Them." \$1. The Goodman Co., Box 649, New York.

ENAMEL AND NICKEL

may make an awfully cheap bicycle look mightily like a cycle of quality because enamel and nickel cost little, but when it comes to the saddle, cheapness is not so easy to conceal. That is one of the reasons

WHY

Persons Saddles

are never found on
cheap bicycles.



THE LEATHER TOPS USED ON
THE PERSONS COSTS MORE
THAN TWO OR THREE OF
THE CHEAP SADDLES ENTIRE.

NO PENNY-PINCHER,

no man who sacrifices reputation
for price will use a Persons.

They cost him too much.

The Persons saddle will mark the
really high-grade bicycle, the one
that is high-grade in fact, as
well as in name. " " " "

PERSONS MANUFACTURING CO.,

CHARLES A. PERSONS, PRESIDENT,

WORCESTER, MASS.

Our Business More than Doubling Every Year.

REASON FOR IT? CERTAINLY. THINK IT OVER.

MR. DEALER :—Send us your name and address at once and we will tell you how to increase your business in 1902; and if you are a hustler, you can double it. Don't delay.

We don't care how many people know that we build Spring Seat Posts and Expanders exclusively, and that hustling makers of Bicycles and Motor Cycles are giving BERKEY SPRING SEAT POSTS as an option on their 1902 wheels. Insist upon it.

All leading jobbers catalogue it, too.

Thousands of satisfied riders using them all over the world. Have you seen our 1902 catalogue, just out? Will be pleased to mail you one.

BERKEY SPRING SEAT POST COMPANY

85 Campau Street,

GRAND RAPIDS, MICH.

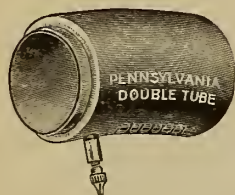


MODEL B



MODEL C

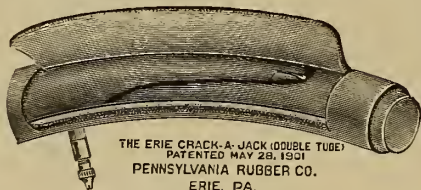
Jobbers, Be Wise!



Handle these
Goods and
MAKE MONEY.

STAY WITH THE GOLD MEDAL WINNERS.

Write for
our
1902
Price
List.



Don't close
until you
consider
our entire
line.

**PENNSYLVANIA
Rubber Company,**
ERIE, PA.

BRANCHES:

NEW YORK
BUFFALO

CHICAGO

PHILADELPHIA

BOSTON



THE TIME TO SPECIFY IS NOW!

...The...
Hussey Bar

will be used on more bicycles this
year than any other high-
class bar in the market.

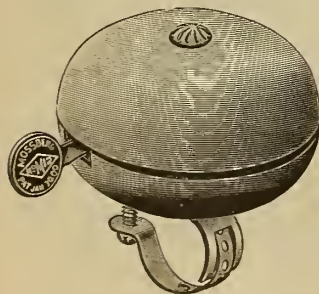
YOU HELP YOURSELF, YOUR TRADE
AND INCIDENTALLY YOU HELP US,
WHEN YOU SPECIFY THEM. . . .

The Snell Cycle Fittings Co.

BRANCHES:
New York and Boston.

TOLEDO, OHIO.

The Only Distinguishable Bell



THE ORIGINAL
Cuckoo Chime

It has been imitated,
but never equalled.

FRANK MOSSBERG CO.,

The Wrench that is Always Ready.

REQUIRES NO ADJUSTMENT.

Length,
6
inches.



Weight,
8
ounces.

Will take any size of pipe, bolt or nut from 1-8 inch to 3-4
inch diameter. As strong as it is simple and has
a grip like a prize bulldog, but will let go
when you want it to do so.

Attleboro, Mass

The Week's Patents.

690,411. Driving Mechanism for Cycles. Johan W. Edblad, Asele, Sweden. Filed Nov. 6, 1900. Serial No. 35,672. (No model.)

Claim.—A treadle mechanism for velocipedes, comprising a frame, a gear wheel and crank, a pedal lever pivotally secured at one end to the crank of the gear wheel, two links pivoted together and one link pivoted to the lever and the other to the frame above the crank, two other links pivoted together, and one pivoted to the juncture point of the first two links and the other pivoted to the frame in the rear of the crank, and a link pivoted at one end to the lever between the crank and the links and at its other end to the juncture point of the links.

690,464. Handle Bar for Cycles, etc. Frederick Sadler, London, England, assignor of one-half to Percy James Hall Robinson, London, England. Filed Jan. 7, 1901. Serial No. 42,400. (No model.)

Claim.—The combination of a post having standards and plates, the latter being supplied with springs; the clamp secured to the post; the rod pivoted to the clamp; and the bar pivoted to the rod and adapted to support the handle bar, said bar passing between and being supported by the springs, all for the purposes and substantially as set forth.

690,601. Device for Automatically Inflating Pneumatic Tires. George O. Morris, Moline, Ill., assignor of two-thirds to Samuel S. Crompton and George H. McKinley, Moline, Ill. Filed Aug. 22, 1901. Serial No. 72,907. (No model.)

Claim.—The combination with one of the forks, the axle, the pneumatic tired wheel and its hub of a bicycle; of a pump connected to the valved nipple of the wheel, a segmental eccentric strap secured to the pump rod, an eccentric having a portion of its rim broken away and provided with a segmental portion fixedly secured to the hub, said eccentric being engaged by said strap, and an arch shaped brace fixed to the eccentric and located to one side of the broken rim portion of said eccentric and said segmental portion and having a recess which is engaged by the axle between one end of the hub and one of the forks and thereby relieving the eccentric, at its point of connection with the hub, of undue strain, substantially in the manner set forth.

690,602. Motor Cycle. Hiram H. Peirce, Indianapolis, Ind., assignor to Annie W. Patee, Indianapolis, Ind. Filed May 18, 1901. Serial No. 60,840. (No model.)

Claim.—1. In a motor cycle, the combination with the top reach and the head and the rear stays, the seat-post comprises a one-piece upper portion having bifurcated lower extensions bowed vertically and extending upwardly and forwardly and their ends connected in a reinforcement, the lower reach extending from the head and connected with said reinforcement, and the rear forks crossing the bifurcated lower portion of the post and connected in said reinforcement, and the rear forks crossing the bifurcated lower portion of the post and connected in said reinforcement, substantially as shown and described.

690,706. Pneumatic Tire Protector. Clarence G. Dinsmore, Staatsburg, N. Y. Filed April 18, 1901. Serial No. 56,389. (No model.)

Claim.—1. A double-tube pneumatic tire having a shield interposed between the outer and inner tube, the ends of the shield overlapping and being free to permit the shield to yield in the direction of its length, the said shield being formed with outwardly extending flanges arranged to embed themselves in

the material of the outer tube to hold the shield in place, as set forth.

690,718. Bicycle Support. Victor M. Gabrielle, National Soldiers' Home, Virginia. Filed July 15, 1901. Serial No. 68,315. (No model.)

Claim.—1. In a bicycle support, a fork-section composed of a rear member having openings for the bolts, a front member having laterally elongated slots for the passage of the fastening bolts and arranged to lap in front of the fork, and provided with a seat for the latch-plate, the bolts connecting said front and rear members, and the latch-plate, substantially as set forth.

690,733. Bicycle. Harold Jarvis, Buffalo, N. Y., assignor of one-half to Richard H. Thompson, Buffalo, N. Y. Filed June 17, 1901. Serial No. 64,777. (No model.)

Claim.—1. In a bicycle, the combination of a frame comprising a steering-head arranged at its front end, a forked frame for the rear wheel arranged at its rear end and an intermediate reach composed of a pair of tube members arranged one above the other and connected at their front ends to the steering-head and at their rear ends to the lower front portion of said rear-wheel frame, whereby said wheel-frame extends above the upper reach member, a seat mounted on the upper reach member, immediately in front of the rear wheel frame, a crank-shaft journaled on the lower reach member near the steering-head, and driving-gearing connecting the crank-shaft with the rear wheel, substantially as set forth.

690,734. Bicycle Seat. Harold Jarvis, Buffalo, N. Y., assignor of one-half to Richard H. Thompson, Buffalo, N. Y. Filed August 19, 1901. Serial No. 72,462. (No model.)

Claim.—1. The combination of a bicycle-frame comprising a steering-head, a rear-wheel frame and a reach member extending rearwardly from the steering-head and connected at its rear end to the lower front end of said rear-wheel frame, whereby the upper portion of the latter frame projects above the reach member, a seat having a back-rest and supported upon said reach member immediately in front of the projecting upper portion of said rear-wheel frame, and a brace or connection extending rearwardly from the back-rest of the seat to the adjacent raised portion of said rear-wheel frame, substantially as set forth.

690,750. Sparking Coil. Marcus H. Mof-fett, Cleveland, Ohio, assignor to the National Carbon Company, Cleveland, Ohio, a corporation of New-Jersey. Filed Feb. 9, 1901. Serial No. 46,662. (No model.)

Claim.—1. A sparking coil consisting of a core having a head at each end and a coil of wire around the core between the heads, the terminal wires of said coil extending through openings in the upper head, combined with a metallic case snugly embracing the coil and extending beyond the upper end thereof, a distance-ring within the case outside of said terminal wires at the upper end of the coil and substantially filling the space to the head of the case, a metallic head for said case, and a pair of binding-posts insulatingly carried by said head and projecting into the space within said distance-ring, said terminal wires being clamped to said binding-posts within said space, substantially as described.

690,903. Composition for Repairing Bicycle Tires. Olin J. Campbell and Jacob B. Beam, Bigrun, Pa., said Beam assignor to said Campbell. Filed June 7, 1901. Serial No. 63,613. (No specimens.)

Claim.—The herein-described composition of matter, consisting of gum-arabic, gray ochre, whiting, rye flour and lampblack, in

substantially the proportions specified.

690,908. Vehicle Wheel Tire. Johann Ludwig, Mayence, Germany, assignor of one-half to Ferdinand Sichel, Mayence, Germany. Filed Feb. 18, 1898. Serial No. 670,837. (No model.)

Claim.—A woven fabric adapted for use in connection with bicycle or other tires, composed of narrow longitudinal strips of metal and relatively broad strips of spring metal extending transversely across the fabric, the said transverse strips being separated and out of contact with each other and having their ends bent upwardly to engage with the flanges or channels of a wheel rim, substantially as described.

690,601. Device for Automatically Inflating Pneumatic Tires. George O. Morris, Moline, Ill., assignor of two-thirds to Samuel S. Crompton and George H. McKinley, Moline, Ill. Filed Aug. 22, 1901. Serial No. 72,907. (No model.)

Claim.—The combination with one of the forks, the axle, the pneumatic tired wheel and its hub of a bicycle; of a pump connected to the valved nipple of the wheel, a segmental eccentric strap secured to the pump rod, an eccentric having a portion of its rim broken away and provided with a segmental portion fixedly secured to the hub, said eccentric being engaged by said strap, and an arch shaped brace fixed to the eccentric and located to one side of the broken rim portion of said eccentric and said segmental portion, and having a recess which is engaged by the axle between one end of the hub and one of the forks, and thereby relieving the eccentric, at its point of connection with the hub, of undue strain, substantially in the manner set forth.

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Graphite and its Uses.

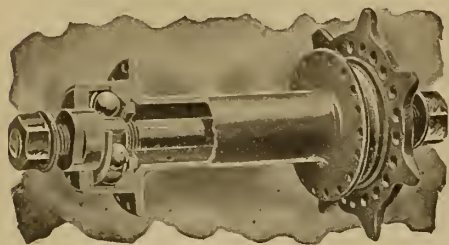
The uses of graphite are many; 55 per cent of the total production is employed in making crucibles; 15 per cent for stove polish; 10 per cent for foundry facings; 5 per cent for paint; 5 per cent for lubricants; and the remaining 10 per cent includes lead pencils and all other applications.

Thus, although the pencil making industry employs altogether about fifteen thousand people, yet the quantity of graphite used is comparatively small. The world's total output is probably about 60,000 tons, and half of this is of the crystalline kind and the rest of the amorphous kind.

The uses to which it is put depend largely on certain of its physical characteristics, none of its uses except as foundry facing involving any chemical reaction. Its principal properties are infusibility at temperatures below that of the electric arc, its great capacity for absorbing and transferring heat, its comparatively high electrical conductivity, and that peculiar softness which allows of its yielding by contact with other surfaces, and which is the reason for the use of graphite in lead pencils, lubricants, and polishes. It readily adheres to any surface, and is polished by the slightest friction.

CHAMPION HUBS

Write for Complete Description and Prices.



(LIGHT WRIGHT RACING MODEL.)

ALSO REGULAR ROAD HUBS.
Worthy of Their Name.

VULCAN HUBS.

Cheap but Good and Well Worth Their Price.

I. A. WESTON CO., Syracuse, N. Y.
Selling Agents, C. J. IVEN & CO., Rochester, N. Y.

HIGH GRADE

wheels must have the
best equipments.

There is nothing that gives more value for
the money than the use of the

MORSE TWIN ROLLER CHAIN



NOISELESS IN MUD, WATER OR
DUST AND ALWAYS EASY RUNNING.

The only chain having Frictionless
Rocker Joints. Insist on having the
Morse Twin Roller. Fits regular
sprockets.

Send for Catalogue and
Trade Price to

Morse Chain Co., Trumansburg, N. Y.

WANTS AND FOR SALE.

15 cents per line of seven words, cash with order.

A MOTOR BICYCLE for \$2.50 per week.
An automobile for \$12.50 per week. Auto-
mobile and Motor-Bi Co., Room 814, Colonial
Bldg., Boston.

FOR SALE—First class bicycle, gun, and
sporting goods business in a growing city,
present population 20,000. Comparatively no
competition. Ill health reason for selling. Cor-
respondence solicited. Address P. O. Box 437
Meridian Miss.

THE CROSBY COMPANY,
BUFFALO, N. Y.,
Sheet Metal Stamping.

**\$3.50 THE PHOENIX
COASTER-BRAKE.**
INDUSTRIAL MACH. CO. SYRACUSE, N. Y.

Century Cycles

couldn't be better.

MILWAUKEE CYCLE CO., Milwaukee, Wis.

NEVERLEAK

STOPS LARGE PUNCTURES.

This is the only fluid that can be legally used in pneumatic
tires. Suits now pending.

BUFFALO SPECIALTY MFG. CO.,
Buffalo, N. Y.

THE ARMSTRONG "A" CRANK HANGER



is conceded by competent judges to be the
most perfect in point of design, mechanical
construction, finish and materials used,
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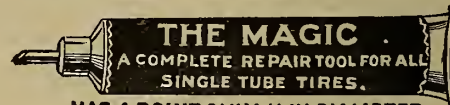
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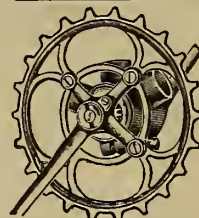
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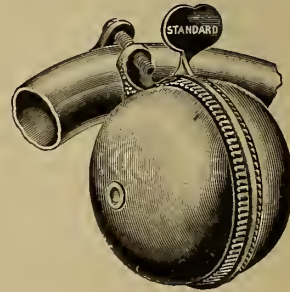
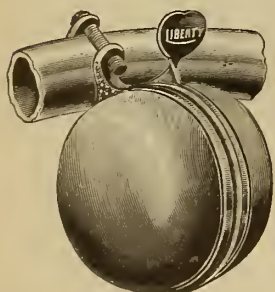
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The Bicycling World

AND MOTOCYCLE REVIEW.

In which is incorporated "The Wheel and Cycling Trade Review" and the "American Cyclist."

Volume XLIV.

New York, U. S. A., Thursday, January 23, 1902.

No. 17

RENEWING THEIR INTEREST

New York Veterans Join in Organizing a Club—Cycle Show Discussed.

It is reasonably safe to say that cycling affairs in the metropolitan district will be considerably livelier during the current season than has been the case of late years.

Steps to that end were taken at a meeting held in the Grand Union Hotel, this city, on Thursday evening last, when there was laid the ground work of an organization that should be capable of accomplishing much good. Most of those who attended are identified with the trade, and rank as cycling veterans. In early years nearly all of them had been concerned in nearly all those affairs and organizations which gave movement and interest to cycling, but they had "grown away" from everything of the sort, and their getting together was almost in the nature of a revival meeting.

The meeting organized with R. G. Betts, of the Bicycling World, chairman, and W. M. Brewster secretary. The upshot of the ensuing discussion was the adoption of a resolution that a permanent organization be entered into, a committee of five—Alex Schwalbach (chairman), Edward A. Davis, George W. Shannon, L. C. Boardman and E. L. Ferguson—being appointed to select a name and draft a constitution and bylaws. They will report at a meeting to be held on Thursday next, 30th inst.

There was some debate as to whether the club should be confined solely to the trade, but this sentiment did not prevail; the membership will therefore be open to all active wheelmen. The matter of a cycle show also was discussed informally, but opinion was divided and a definite understanding postponed until a future meeting.

Aside from the show, a coaster-brake contest, a motor bicycle endurance run and several other events of a nature calculated to arouse interest are on the tapis, and doubtless will be held during the summer months.

An idea of the nature of the revival may be gleaned from the personnel of some of those present, viz.: Will Russell Pitman, who taught Colonel Albert A. Pope to ride;

Elliott Mason, for nearly nineteen years manager of the Columbia branch on Warren street; E. J. Willis, who brought over the first pneumatic tire; E. L. Ferguson, who imported the first diamond frame, and W. M. Brewster, for many years treasurer of the L. A. W. Among others in attendance were T. F. Merseles, now assistant to the president of the American Bicycle Co., and once a prominent club and League official; George W. Shannon, manager of the Stearns Bicycle Agency, and also once active in club affairs, and Charles E. Walker, Eastern sales manager of the American Cycle Mfg. Co. Assurances of support from many equally prominent were also received, and others that have since accrued, make certain that the club will not lack numerical strength.

De Long Manufacturing in Phoenix.

De Long's "tankless" motor bicycle, in which the fuel, batteries, coil, etc., are carried in the frame tubes, will shortly make its appearance in marketable quantities.

Mr. De Long, who until two months ago was in the retail trade in this city, has become a member of the Industrial Machine Co., of Phoenix, N. Y., and since his removal to that place has been making his bicycle ready to meet the demand. It is expected that the first run will be turned out next month.

Coincident with these occurrences the Industrial Machine Co. has incorporated, with a capital of \$25,000 and these directors: William H. Haberle, Edward Oswald, G. Erwin De Long, G. P. Hermance, George Fink and August Fink, all of Syracuse, and J. I. Van Dorn, of Phoenix.

A. B. C. Will Market Motor Bicycles.

All doubts as to the attitude of the American Cycle Mfg. Co. toward the motor bicycle may be dispelled; it is now possible to state definitely that they will market one, and that it will make its appearance in April or thereabouts. It will be the belt driven machine with which they were first engaged and not the bevel geared one with which some experiments were undertaken.

Steel Tubing Again Advanced.

The Shelby Steel Tube Co. has again advanced prices on tubing; the increase averages 10 per cent.

KOKOMO IN THE FOLD

Joins the Tillinghast Licensees and a Bitter Legal Fight is Averted.

The expected fight between the Single Tube Automobile and Bicycle Tire Co. and the Kokomo Rubber Co. is off.

Before even the former had placed its published ban on Kokomo tires for alleged infringement of the Tillinghast patent Messrs. Spraker and Krouse, of Kokomo, had reached the scene of action in New York, and until late on Saturday there was war in the air. The Kokomo people were disposed to fight, and fat fees for patent attorneys were in sight. Between Saturday and Monday, however, an olive branch was waved, a truce was declared, and all parties in interest met and "reasoned together."

On Tuesday peace was formally declared. Under the adjustment the Kokomo Rubber Co. is granted a new license, the ban on their tires is lifted, and the injunction proceedings against their Boston representative, C. S. Knowles will be quashed.

With Kokomo in the fold, the Tillinghast people are now able to present a united front; the settlement also carries with it that tire prices are now fixed and will no longer be tinkered with by any of the licensees, since Kokomo's chief reluctance to take out a new license was due to previous lapses in this regard.

Removal Affects Headquarters Only.

The removal to Chicago of President Bromley, of the American Cycle Mfg. Co., and his staff, as reported in last week's Bicycling World, has given rise to some little misunderstanding. The fact does not appear to have been generally grasped that the removal affects only the headquarters staff, that is, the general sales and purchasing departments domiciled in the Park Row building, and that it in no way disturbs or interferes with the Eastern Sales Department at 152-154 Franklin Street, which will be continued exactly as heretofore, with Charles E. Walker as its manager. The sundry department, under Manager Cox, also remains at that address.

SPECIALISM IS BUSINESS

Its Evolution and Advantages--Trade Journalism as its Offspring and Helper.

In the modern industrial world the trade or class press fills the same place that the specialist fills in other walks of life. In the early days of civilization, of educational and industrial development, there was little need of specialism. The tiller of the soil made his own clothes and utensils, and only as civilization advanced and barter began did man begin to realize that "every man to his trade" was a better maxim than "Jack of all trades," says H. J. Bohn in an exchange.

The literature and ascertained facts in the medical and surgical field have become so vast that students and practitioners in that field find it entirely impossible to acquire all the important knowledge obtainable, so they devote themselves to a study of some one branch or phase, the eye, ear, heart, lungs, skin, etc., bending all their time, energy and talent to master one part of the human system. So lawyers become specialists in real estate, corporation law, criminal law, etc. Modern development tends constantly more and more to specialization, so there are no longer men who make watches or shoes, but mechanics who run machines that make only parts of watches and shoes.

This tendency to specialism in professions and business produced the trade press, a very natural as well as necessary development in business and professional life. That there are many trade or class publications that have little merit is just as natural as that there are incompetent farmers, manufacturers and merchants. No man of sense would condemn all the manufacturers in a certain line because the goods of one of them had proven unsatisfactory; yet there are many manufacturers and merchants who have tried some inferior trade paper, and on the results have condemned all the publications of that line or class.

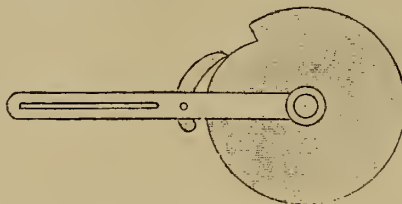
The field of the trade paper is wherever business is transacted in the manufacturing and mercantile world, and the class and professional newspaper field extends into every phase of literature, art and religion. At a period when the population was small, newspapers and other publications very few, and every person who could and did read perused these publications, anything written about or advertised in these mongrel publications met the eye of all who read. How different to-day! Millions of reading people, thousands of newspapers and journals, and specialization carried to such an extremity that men and women not only do not attempt to keep posted on general, mechanical, professional, industrial or commercial matters, but not even in any one of these fields, devoting all attention and energy to merely one phase of one branch, makes an entirely different condition and environment in life.

To-day the successful business man must have everything pertaining to his line boiled

down to the most condensed and available form. All the news, the information, the technical points concerning his field of operation, must be at close, quick, comprehensive grasp. The field of the trade or class paper is to present to its constituency constant, complete, correct information on everything that can interest, enlighten, instruct or profit such constituency. The modern business man who does not avail himself of the work of the man or men who devote their entire time to gathering and presenting in convenient form all information obtainable in his line, is a long way from up to date. A mechanic without modern tools is no more at a disadvantage than a business man without

"Free Wheel" Idea Dates From '69.

In England they have been delving into the misty past in the search for the original "free wheel" or coaster-brake idea. Record has been found of a number of bicycles in which it was incorporated, the earliest dating back to 1869. This was discovered in an issue of "Every Boy's Magazine," and is shown by the accompanying illustration. It



appeared in connection with an article dealing with velocipedes, which, among other things, stated: "Another plan may be followed, which has many advantages. The wheel may be left free on the axle, as in an ordinary carriage, and on the outside of the nave a strong iron plate may be screwed, working with a ratchet. The crank arm will then run free when descending an incline. It will be observed that the 'ratchet clutch' is pivoted to the crank itself."

continuous information of all that transpires in his field of operations. The field of the trade paper consists in being a medium between buyer and seller, manufacturer and merchant, producer and consumer, and its reading columns must be a mentor, a compendium from week to week and month to month, while its advertising columns must represent adequately the men and concerns engaged in the line represented.

As to the influence of the trade press, just as the country weekly within its small constituency has a greater influence upon its readers than the metropolitan press upon its readers, so the trade press has vastly more weight within its constituency than any other publication whatsoever. A trade paper that has not such influence is a weakling. The trade paper of standing and merit is compelled to be honest and deal correctly and fairly, otherwise it cannot secure or hold patronage. Untruthful or incorrect figures or perverted facts will quickly sound its death knell. Its influence, therefore, is powerful, and will continue to be more and

more powerful, in proportion to the development along correct lines of these trade organs and the increased interest in and understanding of the value of such publications by enterprising, aggressive, wide-awake business men and their representatives and employees.

The manufacturer or merchant who to-day "has no use for the trade paper" simply advertises himself as a "back number," and should "go 'way back and sit down."

Position of the Motor.

In a recent discussion that came about from a lot of old timers relating early experiences in repairs and construction, the motor bicycle came in for an hour's talk that proved the need of creeping before walking. Not to detail everything in the category, the subject of the proper place for the motor as affecting the stability of the bicycle came in for lengthy argument.

The exact position was touched upon, but the real argument came from the differences of opinion as to a high position or a low position. And the subject is yet open, as no agreed opinion was obtained. This is the condition that the actual making and designing will be in until there is a wider experience to furnish cumulative data from which to work.

Cause of Austria's Satisfaction.

The Austrian-Hungarian cycle trade is shaking hands with itself because, while its exports have decreased, its imports have dwindled even more largely. The total import for the ten months, January-October, 1900, amounted to 358,020 kronen, which has been reduced for this year to 228,280 kronen; 35 per cent of the total came from Germany, 15 per cent from America, and only 2 per cent from Great Britain. The total export for the same period in 1900 amounted to 1,328,250 kronen, against 952,140 kronen in 1901. Austrian cycles go mainly to Germany, which takes nearly half of the total, and the rest goes to Italy, Switzerland, Denmark, Sweden and Norway.

No. 6 the Proper Alloy.

For small motor construction where aluminum is used there has been much uncertainty as to what alloy to use. From an extensive experience it can be definitely advised that the best alloy for this purpose is that known as No. 6. This can be bought of the reduction companies, and its purchase will not only give positive satisfaction, but will save the annoyances and uncertainties of trying to get up an alloy that will do the work.

Suggests a Cycling Language.

The French Touring Club proposes a thing that would be a better thing for the trade than it would be for those whose particular good was planned. The proposal was that an international cyclists' language, to be known as Esperanto, be built up to facilitate the intercourse of cyclists from all quarters of the globe.

BETTER THAN BOOM TIMES

Racycle Establishes a New Record in Sales —Methods That Achieved Results.

It should surprise none to learn that, despite the so-called depression, the Miami Cycle and Mfg. Co. is doing a remarkable business in Racycles.

In dealing with the Racycle policy some four weeks since the Bicycling World intimated quite broadly that it was producing substantial results—results that have grown with the weeks. It is the full extent of the growth that will cause the pessimistic and fainthearted to gasp for amazement.

The Racycle record is just this: It surpasses the record of even the boom years. The news is conveyed by a telegram of date the 20th inst. from the Miami people, as follows:

"Banner week. More orders received last week than on any previous three weeks since the invention of the Racycle. We are working double force day and night."

While the statements may be received with doubt in some quarters, those "in the know" will give it immediate and unquestioned credence. It is simply a triumph of reputation and real aggressiveness.

While others were filled with woe or were half full of doubt and timidity, the Miami Co. took advantage of the situation and crowded on its faith and energy to the full. It put more money into printers' ink than ever before, and instead of reducing its travelling staff it doubled it, having nearly forty men on the road, scouring the country in every direction. The hesitation and cheese-paring of not a few other manufacturers simply made things easier for the Racycle people, and for the last few weeks it has been known that the business has been literally rolling Miamiward. The inspiring news conveyed by the telegram from Middletown was not therefore wholly unexpected.

Unusual Mid-winter Sales.

One of the unusual and unexpected developments is the volume of retail sales reported during December and January. The reports come from several of the larger cities in the East, and all agree that nothing like so many bicycles were ever before sold during those months. Magnificent weather might account for the conditions in some places, but in others snow is on the ground and the state of the sky can therefore have little to do with the matter. This tendency of so many buyers not to wait until the so-called riding season opens is, however, sufficiently marked to require remark and constitutes a hopeful sign.

Marshall-Wells With Two Millions.

The Marshall-Wells Hardware Co., the big hardware and cycle jobbing house of Duluth, Minn., has incorporated under New-Jersey laws, with capital stock of \$2,000,000.

Motocycle Originations From Ohio.

While they are not ready to market it, Frayer & Miller, Columbus, Ohio, have in active use a motor bicycle in which not a few originalities are incorporated and which is of eye-pleasing appearance, as the accompanying illustration attests.

For the position of the motor—low and in rear of the crankhanger—they claim a better balance of the machine and a position in which motor vibration least affects both bicycle and rider.

The motor case is brazed on the frame the same as ordinary crankhanger fittings. The top of the cylinder is securely tied to the saddle post tube, and the exhaust pipe and muffler run back and tie to the rear axle, thus bracing the cylinder securely in the frame. The lower tube, the lower horizontal tube and the saddle post tube are utilized to circulate air to keep the lower end of the piston cool, to dry the air and remove all dust from it before entering the cylinder. The upper horizontal tube carries fresh lu-



bricating oil, and the gasoline tank is supported between the two parallel horizontal tubes.

The motor itself, the inventors say, is a radical departure from anything which is built, and they do not use the jump spark, believing "that our igniter eliminates more trouble than any other one thing we have." But of the igniter they say nothing. The gasoline mixing valve is "entirely automatic for all speeds and conditions of atmosphere and cannot freeze up." Lubrication is effected by splash system of oil inside crank case, the oil being replenished by fresh oil from top tube as it is consumed.

The control is very simple and is accomplished without taking the hands from the handlebar grips. At the right grip is a small lever, by pressing which the motor is instantly stopped, allowing the machine to coast like an ordinary bicycle, and by relieving the pressure the motor instantly takes up its work again. At the left grip is another small lever, which controls the speed according to the rider's wishes. The motor is 3 B. H. P., and total machine weighs 100 pounds.

Buffalo Branch Spreads Itself.

The Buffalo branch of the Hartford Rubber Works Co. has taken in the adjoining store. The enlargement will give more room not only for Hartford and Dunlop tires, but for a complete stock of mechanical rubber goods, druggists sundries, etc., which will be hereafter carried.

RUMOR ABOUT RUBBER GOODS

New York Bankers Said to be Seeking Control—Reports Promptly Repudiated.

Considerable interest has been aroused by a report from Boston stating that New York banking interests were soliciting underwriting subscriptions in connection with the Rubber Goods Mfg. Co. The alleged move is supposed to have some bearing on the stock recently taken over from Charles R. Flint, whereby control would rest in the hands of the banking interests in question. The idea, so it is said, was to eliminate some of the water in the stock.

Men identified with the Rubber Goods Mfg. Co. denied, however, the report, and say that no plans are under way for the reorganization of the company. They declare that the company is in a prosperous condition, and that the rumor of radical changes was, no doubt, inspired by enemies of the company. U. D. Eddy, vice-president of the Rubber Goods Mfg. Co., was among those who denied the reorganization rumors.

It is understood that the Rubber Goods Mfg. Co. had a very prosperous year in 1901, and that its net earnings aggregated \$1,800,000, which is equal to 7 per cent on both classes of stock. The mechanical rubber trade is said to be in a remarkably prosperous condition.

Shelby Men Step out.

W. Stacy Miller, president of the Shelby Steel Tube Co. before its absorption by the United States Steel Corporation, and who went to Pittsburg at the time of the transfer, has stepped down and out, and is now recuperating at Lakewood. F. A. Brown, the former Shelby sales manager, has also retired; he has returned to San Francisco, whence he came.

Chance to Cultivate the Danes.

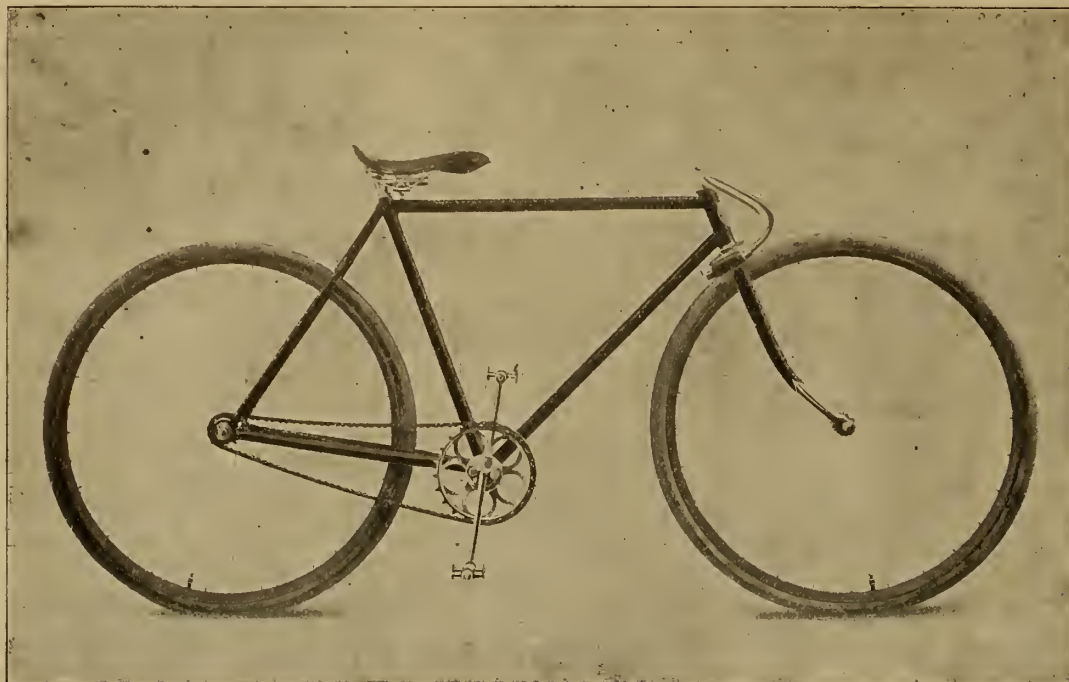
The first cycle and automobile show ever held in Denmark is scheduled for March 9-16 at Copenhagen. Denmark is a good bicycle country, and one well worth cultivation not only because of itself, but because of the proximity of Norway and Sweden. The show in question should therefore commend itself to the American trade.

Good Chains for a Song.

The withdrawal of the Indiana Chain Co., of Indianapolis, is supplying some rare opportunities for the purchase of good chains and chain parts. The prices they are quoting to close out the stock on hand should move it in short order.

Merseles Sails Suddenly.

Theodore F. Merseles, assistant to the president of the American Bicycle Co., unexpectedly sailed yesterday for Europe. The cause of the sudden departure is not, of course, public property.



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WHEN HE MADE THE
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PACED COMPETITION
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FOR 1902.

National Cycle Mfg. Co.,
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Investigate the merits of other tires—find out what they are made of, how they are made and how much they cost. Then look up the

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BUFFALO,
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DETROIT,
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CHICAGO,
54 State St.

SAN FRANCISCO,
114 Second St.

THE BICYCLING WORLD

FOUNDED 1877
and MOTORCYCLE REVIEW

In which is Incorporated
the "The Wheel" and the "American Cyclist."

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To Facilitate Matters Our Patrons Should

Address us at P. O. Box 649.

NEW YORK, JANUARY 23, 1902.

The Breaking of the Cloud.

That the atmosphere is clearing and trade spirits reviving is becoming as plain as print.

Hopefulness and determination, coupled with inquiries and promises of a substantial nature, are rapidly dissipating the depression that for many months has hung over the trade like a wet blanket. Smiles are giving place to sighs, and all thoughts are now of the weather.

The people who do not feel or reflect the rejuvenation are, as was stated a few weeks since, mainly those manufacturers who are little known to the outside world, and who have no reputation or agency system, and those whose business depended chiefly on such manufacturers. Some of the latter are in dire straits, and at this, the eleventh, hour are making desperate efforts to churn reputations out of skim milk and prove themselves devoted friends and slaves of the agent who occupied so small a share of their attention and consideration so long as the "big buyers" and the cutthroats purchased their outputs.

Practically all of the other manufacturers, the ones who, with a thought of the morrow, valued their good name and the good will of the retailer, and who did not hide and are not hiding their lights under a bushel, are reaping their just rewards. They are full of good cheer, and their agents are sharing the sentiment.

Generally speaking, the day of the mere cheapness and of the unknown and little known bicycle is over. The cycle trade is emerging from its slough of despond.

Retailers can aid in lifting it higher by remaining true to those who have been true to them, and by living in the present, not in the past; they can scatter the clouds more quickly by keeping their troubles and past distresses to themselves and not repeating them to their customers, who simply re-repeat them until the molehill really appears a mountain.

Manufacturers can contribute to the result by choking the travelling salesmen who "swing around the circle" recounting the past greatness of the trade and comparing it with more recent might-have-beeness.

In short, now that things are unmistakably looking up, it is time to cease what is conveyed by that vulgarism, "knocking." The men in the trade have damaged their own interests by doing as much "knocking," if not more of it, than all other people combined.

New York's Good Example.

It is pretty much a matter of cycling history that "as does New York so does the country."

The century runs, cycle shows, "society" whirls, road races, hill climbs, coasting contests and other etcetera which did so much to advertise the bicycle and stimulate cycling interest were all inaugurated here, and swept the country in successive waves of more or less intensity.

The preliminary organization in New York last week of a club of "reincarnated enthusiasts" with objects of the sort in view suggests that history may repeat itself, in a measure at least.

The example set is, at any rate, worthy of general imitation. It can do no harm; it is likely to do much good.

The Effect of "Extras."

When a maker or dealer starts to reason out the causes that have prevented a more general purchase and acceptance of such improvements as cushion frames and coaster

brakes, has it ever occurred to them that, because they have presented these fixtures to their customers as extras they have antagonized a very fixed quantity in the human makeup?

The average man (or woman) has but to recall any experience of his own in buying goods for his personal use to fully realize the situation. Let him call to mind some visit to a tailor for a suit of clothes, and he will remember that after picking out a pattern of cloth that satisfied him at the price previously understood, it was suggested that for so much more, a mere fragment of the total price, he could have a much superior lining or some other extra. What was the result? Is it not a fact that the man who was making the sale committed an offence, and that you experienced a feeling of resentment, if not antagonism?

Speaking generally, "extras" tend to discomfit or drive away trade, just as "options" serve to attract it.

When you sell bicycles it is well to remember that the other fellow buys from you with just the same human attributes and prejudices that you have in buying your life's necessities from some other seller. We are told that the successful salesman is the one who studies his customer and follows up with action points and hints thus gained. True; but the big men in the selling branch of business are men who also study customers in the concrete. They start out with a knowledge of human foibles and human prejudices, and on this understanding they base their campaigns. The battles of this campaign, the individual sales, are then fought out in the study of each customer and in following up the points and hints that accrue.

So it is with coaster brakes and cushion frames. Many a sale has been lost because you can lead a horse to the water, but you cannot make him drink. The customer had been cleverly handled according to modern lights and precepts. He had been allowed to run through the entire gamut of saddles, tires, handlebars and colors of enamel, until he had gotten the bit between his teeth and believed he was master and you a mere atom. Therein he was not showing any special viciousness, nor was he open to particular criticism; he was only enjoying the gusto of human nature and touching off the fuses quick and fast. The mistake was then made of trying to mix "options" with "extras" in entirely wrong proportions and in worse order.

The customer had been familiar with the options because he had bought in other sea-

sons, or, if he was a recruit to the ranks, because he had friends who had thoroughly posted him. The lead should have been from the short suit and his attention at once directed to cushion frames and coaster brakes. The advantages of either or both could have been dwelt upon and a convert made that would have made other converts. A season of this work would have furnished evidence that would have proved the desirability of listing models making these features standards.

Cushion frame machines are now on the market as distinct models, but the coaster brake continues as an extra, whereas, as has before been suggested by the *Bicycling World*, it might be better from all standpoints if it were listed and sold as a standard model. The question of price in the matter of coaster brake models is a matter that is perhaps open to some argument, but should a maker or dealer feel that coaster hubs could be equipped as an option rather than an extra the difference in cost could be made up in cutting out other options, as it is well known that options entail many other costs than the mere differences paid to the makers of the various parts that come under the catalogued head of options.

But a few weeks since the *Bicycling World* published the testimony of one of the owners of the cushion frame patents on this very point. He echoed the views here expressed. While the cushion frame was offered merely as an "extra" its sale was comparatively limited; the moment the cushion frame bicycle was listed as a standard model and at a fixed price its sale began to advance, until in 1901 it scored an increase of 300 per cent. In contemplating a purchase few people give thought to "extras"; they set a price in their minds which is not easily dislodged.

England's Glorification.

At the recent cycle and automobile show in Paris the products of practically all nations were represented. There were French bicycles and American bicycles, likewise exhibits of English, German, Swiss, Austrian and Belgian skill and handiwork; but whether designed to be propelled by muscles or motors, the best and greatest of all were those that came from England.

On this score there is no possible room for doubt or dispute. The English cycling press is agreed on the point; there is not a discordant note in the chorus of praise. And, of course, that settles it! No frog eating Frenchman, no bloomin' Dutchman, no loud

mouthed Yankee is competent to say otherwise.

All the skill, all the ability, all the desire, all the conciousness in cycle manufacture is centred in Great Britain. Perforce, the product of the rest of the world simply must be inferior. The Frenchman is merely an animated jumping-jack, the Teuton a thick headed fool, the Yankee a consummate braggart.

The only truly competent and unbiassed judge of cycle superiority is the English cycle pressman. When he awards the palm to the British bicycle he does so because the British bicycle is, without if or ism, indisputably and immeasurably the best; the fact is clearer than crystallized mud. Yankees have made such statements regarding their bicycles, but they know nothing about the subject. Their assertions are simply Yankee "bounce." If your English cycle pressman boasted he might be similarly accused, but he never, never brags. He is a cold, phlegmatic person who deals with Facts, always with a capital F. Americans are world famous as braggarts, you know; Englishmen as the world's models of modesty and rectitude.

What is true of bicycles is as true of bicycle accessories. This is equally beyond dispute. For have we not the assurance of one of these Greatest Britons that "the quality of the American best is, in almost every instance, inferior to the English best?" The only reason why American accessories retain or ever attained any degree of success abroad is due solely to the unfortunate fact that a few fools still remain on the island—that is to say, and to quote the same writer, "the success of these accessories is due to their being handled almost entirely by British houses." What distressing and all-around inferior persons Americans are, anyway! Surely Sir Alfred Austin, poet by royal appointment to the British people, must be a despicable muff that even in verse he would have common Americans stand shoulder to shoulder with his superior brethren in repelling Boers, Russians, Germans and the other riffraff of the earth's surface.

We have but one thing to be thankful for: In all this recognition of English merit an English writer, after casting Americans and American bicycles into the sea, undoes himself and his country by acknowledging that, after all, "the English makers learned from the Americans a great deal that they knew on production, organization, distribution and advertising methods."

This, sounds mightily like treason to the

flag. Having followed the utterances of the English cycling press for many, many years, we refuse to believe it. We do not—we simply cannot—believe that America ever produced an idea or an article that was original or that was worth a tinker's dam. We do not believe England ever learned anything from America or ever will learn anything. We do not believe it is possible for any nation on earth, or above or below earth, to turn out anything superior to or as good as its counterpart produced in England. We are convinced that the occasional Englishman who admits to the contrary is either dunce or traitor. We feel that we know. We have been schooled by the free, fair, unbiassed and never-bragging English cycle press. It is a stern school, but, ah; it knows—indeed it does!

Faint heart ne'er won fair lady or a doubtful fight. The man who stands shivering on the bank will be blue and chattering, while the one who "plunges right in and shivers it out" will be glorying in the exhilaration that follows the plunge. These observations are induced by the inspiring record of the Racycle folk. Their record simply serves to show that there is business, and plenty of it, when it is "gone after" in the right way and when men's hearts are strong and their backbones are in their backs and not in their boots.

One of the faults to be found with many small dealers is that they do not follow up personal or other inquiries with enough consistency. Once that a possible customer is learned of, he should be followed up with persistency until there is a positive knowledge that further effort would be useless.

Manufacturers should remember that one of the greatest difficulties that retailers have to contend with is to get again in touch with orders that have once slipped by them owing to non-delivery from the factory. Ten days or two weeks after call may seem a small matter to the shipper, but it counts against him in the end.

Retail dealers should remember that their show windows are a part of their advertising space. To frequently change copy in their local advertising, and then allow their show windows to present the same appearance day in and day out, is inconsistent and not good business method.

It's hard to keep a good thing down—the cycle show, for instance. D'ye hear that voice from Mount Ross?

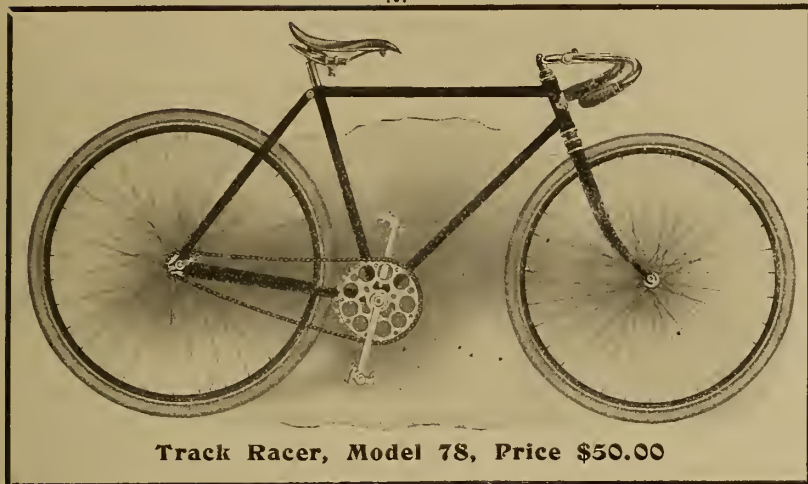
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BICYCLES



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Track Racer, Model 78, Price \$50.00

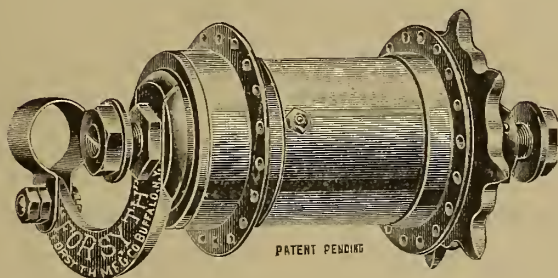
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for
1902

WALTHAM MANUFACTURING COMPANY
WALTHAM, MASSACHUSETTS

THE WISE MAN

does not permit himself to be fogged by clouds of words or self-made claims. If he is interested in coaster brakes, for instance, he reads all there is to read, hears all there is to hear, and then investigates for himself and acts accordingly; he is not given to buying blindly; to "be true to himself" he cannot afford to do so. We have never had much trouble in convincing that type of man of the true worth of the

FORSYTH



IF BEING "TRUE TO YOURSELF" IS A
PART OF YOUR LIFE CREED, WE
BELIEVE WE CAN INTEREST YOU.

FORSYTH MFG. CO., - Buffalo, N. Y.

FOR A PROSPEROUS NEW YEAR

... TRY THE ...

Wolff-American and Regal Agencies

We are closing rapidly with representative dealers in all sections.

If you are looking for the lines that will put "ginger" in the bicycle business and make it profitable, it will pay you to write us.



STEARNS BICYCLE AGENCY

GENERAL DISTRIBUTORS OF
Wolff-American and Regal Bicycles
Elfin Juveniles
SYRACUSE, NEW YORK

CORRESPONDENCE

Editor The Bicycling World:

Our friend, "Another Sales Manager," writing in your issue of January 9, is right in saying that we think the trade discount should be granted to the trade alone. We think so because, in our opinion, this is the only way the motorcycle game can be built up to any considerable or profitable state.

The writer appreciates to the fullest what our friend says concerning the seeming indifference of the large per cent of dealers. It is small wonder that this is so when one thinks of the many hard knocks the dealer has sustained during the last few years. We cannot blame him for not taking on the motorcycle with his oldtime vim, but rather commend his stand in requiring us first to get a reputation for our goods. His doing this same thing indicates that his eyes are wide open, though he may be very tired.

The writer can also appreciate the position and feeling of the dealer better than many, from the fact that he belonged to that class for many years and knows from actual experience what it means to have a trade, built up by hard work, ruined through some shortsighted policy of a manufacturer like the one under consideration.

With these experiences fresh in mind, and knowing the value of a loyal army of agents (whose loyalty can only be gained and held by a live and let live policy), we shall stay by the agent, to whom by rights the business belongs and who may appear a little dormant, but will wake up shortly and decide who his friends are and act accordingly. It is our purpose to be counted among his friends.

Oh, yes; the bicycle agent will surely wake up to the possibilities of the motorcycle and we shall yet see, and soon, too, something like old times again in this new game.

We would advise our brother to be patient yet a little longer; if his motorcycle is reliable

and practicable he will not lack for customers unless he drives from him the agent who by his training and situation can best look after the motorcycle's welfare.

One of the surest ways to kill this producer (of golden eggs) is to take away his just profit by selling or offering to sell to customers naturally his at the same price you have quoted him. "Let's don't." We won't, anyhow. The agent is a friend we appreciate and are going to help to happiness and prosperity once more.

It would be interesting to hear from the agents themselves, and we hope soon to see in these columns their side of the question from one of their number.

WISCONSIN WHEEL WORKS.

S. F. Heath, Sales Manager.

Editor The Bicycling World:

Can you tell me why there are so many mixing valves used on motorcycles instead of the French style of carburetter?

G. H. CURTISS, Hammondsport., N. Y.

[The mixer is rapidly displacing the (surface) carburetter because it is far more reliable under the changing conditions of road surface, atmosphere and gasoline supply. Where surface carburetters are used the gas is made by drawing air across the gasoline. It will be seen from this that the constantly changing square surface of gasoline that necessarily takes place as the machine bumps along the road is equally constantly changing the mixture, and to get the best results it would be imposed upon the rider to keep at the levers which control the mixture and that run to each end of the tubular mixer that is fixed to the top of the tank. The varying levels of supply also effect this, and unless kept in constant use until all the gasoline is gone there is apt to be trouble in starting owing to stale gasoline.

With the mixers of the kind referred to as mixing valves none of these conditions are effective. There is a governable fixed

amount of gasoline fed to the device, and there may or may not be a governed amount of air. The gasoline is then fed to some spraying device that atomizes it, and thus presents a breaking up of the gasoline that may be said to offer a thousand surfaces for air in place of one. This naturally permits lower gravity gasoline to be used—a very important factor.]

Editor The Bicycling World:

Having failed to find any indication of a cycle show among the editorials or advertisements in your valued paper, I beg to ask if you can give me any information regarding the subject. As heretofore the preparations have usually been well under way before this time, I am in doubt as to whether a show will be held or is contemplated; if one is in view, will you please let me know about what date it is likely to occur?

A. B. MILLER, Mount Ross, N. Y.

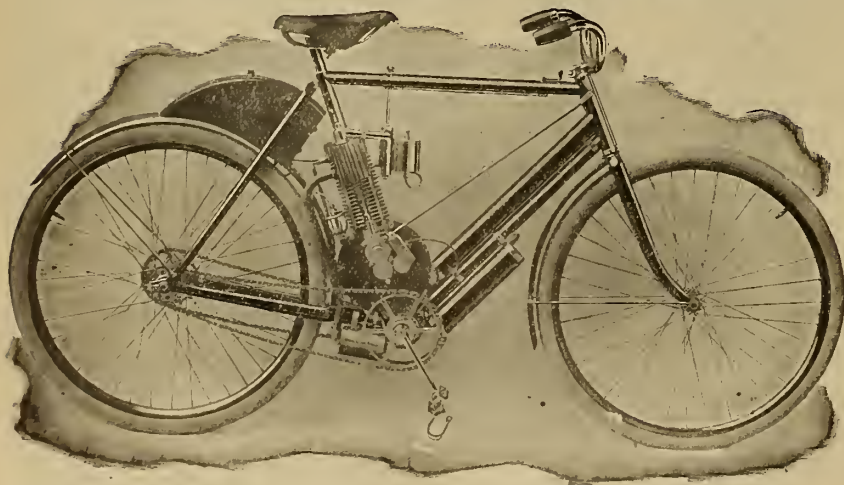
[It is now too late even to contemplate a national show such as was held in previous years. The matter of a metropolitan show has been discussed, and is in the category of possibilities. If one is held it will probably occur during March.]

Rust and Enameling.

Rust is the bugbear of every good enameller, for wherever there is a trace of it there the enamel will peel away first. A polished frame should never be touched with the bare hand, particularly if there is a trace of perspiration on it, as it will quickly produce rust. Many enamellers first wash down the frames with mineral naphtha, or even paraffine, to guard against rust. The frames are then put into the stove and heated up to a temperature of 280 degrees Fah. Any rust or other marks reveal themselves at once. This process is usually known as "sweating frames."

The motor bicycle is the ideal automobile for the man whose habitat is the hall bedroom.

FROM \$200 TO \$25



IS A LONG LEAP, BUT THAN THE

INDIAN BICYCLES,

that run the scale, there were never better values offered the cycle-purchasing public. Whether it be the motor bicycle or the pedal-propelled bicycle, INDIANS are of a class: They are built to sell and to give satisfaction after they are sold; and they do it, too.

WHOSE AGENT ARE YOU ?

HENDEE MFG. COMPANY, = Springfield, Mass.

WHEN MOTORS WEAKEN

Some of the Contributing Causes and Their Cures—Valves Usually Involved.

The gradual weakening of the power in small motors has been a complaint that, in the newness of the use of these motors, has given trouble to both makers and users because the latter could not be sufficiently impressed with the needs of watching this factor, and because they would forget to try the various remedies, or else did not know how to try, except by long and, seemingly to them, complex methods. This gradual weakening comes from loss of compression at one of the following points: Seat of exhaust valve, seat of intake valve, at piston rings and where head joins cylinder. These points are here mentioned in the order of their probable frequency.

The exhaust valve leaks are possible from more causes than are those at any of the other points, but the most frequent cause is due to faults at the seat itself. Owing to the great heat of the exhaust gases which pass through this valve, the seat in the valve house and the seat of the valve poppet corrode very rapidly and become pitted. To keep a good, close contact of the two meeting surfaces requires frequent grinding. The stem of this poppet passes through a hole, that acts as a guide, in an under projection of the valve house, and through a helical spring ending a short distance below the end of this spring. Where the stem passes through the guide it sometimes happens that it does not act as freely in this guide as it should, because a poor quality of cylinder oil is used that cakes on the walls of the guide and prevents free movement. Owing to the intense heat at this point the spring sometimes loses its high temper and fails to seat the poppet, except in a lagging fashion. Either of these two permits a certain amount of the fresh gases to escape during the compression stroke, no matter how recent has been the grinding of the seats.

Another cause that may prevent full seating, although one of very rare occurrence, is traceable to a guide used in connection with the stem projecting upwardly from the shoe that travels on the exhaust cam operated by the half gear. As this half gear operates in a housing that is cast with the aluminum crank case, it is evident that the soft metal would not stand much wear from the stem. For this reason it is customary to screw in a guide that is made of iron or steel. If the threads cut for this purpose are poorly made the guide may back out, and in so doing press against the lower end of the exhaust spring seat, thus holding the valve open.

Other causes for non-seating will be found in stems, of either the exhaust poppet or the exhaust shoe, that are too long in themselves or that are too long because of some

mistake in assembling. In all cases there should be about one thirty-second of an inch space between the ends of the stems when in jointly inoperative position. This space is necessary because the poppet stem expands as it becomes heated, and if the two stems actually met while the motor was cold it can be realized that this expansion would prevent a perfect valve seating. The overlength from poor assembling means this: The distance between the two stem ends may have been correctly provided for, but its importance can be made nil because of the chances for poor assembling, from the fact that their relative positions are controlled from three parts—the head, cylinder and crank case. It is more than likely that in designing the maker has provided for gaskets at each end of the cylinder. It will be appreciated that if either or both gaskets are left out trouble is going to come as soon as the engine is set up and an attempt made to run it. Another cause that may give trouble will come from canted adjustments of the parts, even though the gaskets are put in place. In bolting the parts together care should be taken to avoid any tipping or twisting out of alignment.

This bad assembling may bring the stems too near together, with the results above noted, or it may position them too far apart. If the latter is the case, then trouble is going to come, no matter how good the seating of the valve. The effect of having the stems too far apart is to throttle the exhaust, resulting in a back pressure on the piston and an impoverishing of the explosive mixture, because a part of the burnt gases are left in the cylinder after the exhaust stroke, due to the fact that the poppet does not get its full lift. Another cause for this short lift can be traced to battered down ends of the stems. The ends should at least be case hardened, as they are subjected to a terrific pounding at a very high speed. The importance of these matters of distance between ends, and ends capable of standing the hammering they are given, is not as fully realized as it should be. Many an experimenter and user might have saved much time and annoyance if proper knowledge had been had and then this knowledge used.

Intake valve troubles come from poor seating, sticking stem and weak springs. Outside of getting proper material in the spring, the obvious correction on this score is to replace in new springs if the weakness is due to overheating. While this replacing of springs is a generally safe course to pursue when in doubt, it is not always necessary, as very often it is merely the adjustment that is wrong, if the intake is provided with same. Sticking stems come from the same cause as told of regarding exhaust poppet stems, only with intake poppets this trouble is aggravated, because the spring is much weaker to overcome the resistance set up. With some motors this tendency is of greater frequency than with others, because the

guide hole is too close a fit. The amount of play to allow the stem in the guide is a nice question, as, while the above mentioned is an objection, it should not be lost sight of that if too loose a fit is made, then the poppet will cant and the seating will be imperfect. The spring must not be depended upon to force the seating, as this would require a spring of too great a tension to be overcome by the vacuum at the intake stroke. To offset any tipping the scheme has been tried of having the seat of the poppet made on the arc of a circle. It can be seen that the objection to this comes from the fact that each time the valve is ground—in this rounding is worked away, and therefore loses any value that it might have had. Too frequent grinding will sometimes bring about trouble by making a pocket in the housing seat, and along this edge will be found a hard, burnt crust that sometimes holds the poppet partially open.

This brings both valves to the remaining subject of grinding in. Both poppets are provided either with hexagons on their heads or else a slot, generally the latter. If the poppet heads have a hexagon, use a cap wrench; if they have a slot, use a screwdriver to twirl them on their housing seats. The valves should be revolved backward and forward, always moving them through more than a complete revolution. If using a screwdriver, be sure that the handle is round, so that it may be held between the palms of the hands and rapidly rotated. If quicker work is desired than can be accomplished by using the ordinary screwdriver, then use a brace with a screwdriver blade. This latter will permit of more pressure being used.

For the abrasive substance use either flour of emery or rotten stone. With the former use oil, with the latter use water. Rotten stone will take longer, but will give a much smoother seating. When quick work is desired and at the same time a particularly smooth seating, start with the emery and finish with the stone. Whichever is used, particular pains should be taken to wash away the refuse. For the stone use water. For the emery use gasoline. Some authorities do not believe at all in the use of emery, claiming that it can never be entirely gotten rid of, as it is so hard that occasional particles become bedded, and thus scratch one or the other of the seats, only to set up a possible leak. The hint is here given that, should an owner of a motorcycle be caught on the road without material to grind in a valve, he can use the particularly fine dust or mud usually to be found in the wheel ruts and mix it with plenty of water. Care should be taken that it is dust, and not gravel, that is collected for this purpose.

"The Motor: What It Is and How It Works." See "Motocycles and How to Manage Them." \$1. The Goodman Co., Box 649, New York.

The Kokomo Rubber Co.

having deemed it wise to settle
for its past royalties and infringe-
ments, and to petition for a

NEW LICENSE UNDER THE TILLINGHAST PATENTS,

HAS BEEN GRANTED A LICENSE

by this Company and is now fully
authorized to manufacture and
sell single tube tires.

SINGLE TUBE AUTOMOBILE AND BICYCLE TIRE Co.

ODDS AND ENDS

The material that enters into the construction of our wheels is its own best spokesman, is the way one maker puts it.

Before a rider can properly adjust a saddle it is necessary to understand the value and working of the clip by which it is secured to the machine.

During 1901 the members of the Century Road Club Association of New York completed 1,129 century runs; the previous year their record was 1,223 "hundreds."

Unless the story that comes via London lies, that oft-invented and long drifting creation, the water cycle, has at last found a welcoming haven. It is said to be in plentiful use on the water contiguous to Berlin.

Smallest Track in the World.

In these days of high-banked indoor tracks the public has become quite accustomed to the manner in which swiftly speeding bicycles apparently defy the laws of gravitation. But at that few were prepared for such defiance as that which New Yorkers have been witnessing at Proctor's Twenty-third Street Theatre during the last few weeks, and which the people of the other large cities will have a chance to witness during the year. It is nothing less than a bicycle race on a 125-lap track pitched at an angle of 65 degrees. The accompanying illustration will convey a fair idea of what the track or "cycle whirl," as it is more appropriately termed, looks like. To the eye it looks as much like a waste basket of heroic size as anything else, and the manner in which five men can hang on and maintain

Men are largely judged by their speech, and those who talk much are easily "sized up." The man who "looks wise and says little" is often given credit for knowing far more than he does know.

Think of a tricycle with 13 horsepower! Yet this is the power claimed for the machine on which the recent flying kilometre record of 33 seconds was made. This speed equals a fraction over 67 $\frac{1}{4}$ miles per hour.

The municipal pawnshops of Continental Europe provide not only ready cash, but secure winter storage—a fact which is appreciated by cyclists, among others. In Paris more than five thousand bicycles are thus stored, and in Vienna seven hundred. In the latter place, for a small extra fee the machines are overhauled and kept in order.



ONE HUNDRED AND TWENTY-FIVE LAPS TO THE MILE.

One man can turn out three coaster-brakes in a day's work under modern shop practice, in spite of the fact that there are nearly three hundred operations and handlings.

Trade is said to be booming in Natal, South Africa. The November imports are stated to have been the largest on record, amounting to above \$5,000,000, exclusive of government and military stores.

"So long as the grass grows there will be horses and so long as men and women have legs there will be bicycles," is the manner in which Alois Schwalbach, the sage of Brooklyn, hurls back the oft-prattled remark that the coming of the automobile foreshadows the end of all else.

To get on in this world a clerk in whatever sphere must be willing to do anything which he is asked to do and many things which he is not asked to do. Too many of them fail to appreciate the latter half of the fact.

a smart pace without interfering with each other is little short of marvellous. They, of course, use abnormally low gears and appear to move much faster than they really do move. Stories of remarkable times have been been circulated, but to a Bicycling World man Mauager Schreyer, who controls the "cycle whirl," stated that it is doubtful if a mile in 3m. 30s. can be negotiated by any one. The race, too, is deceptive, and none can tell who really does win, since the track is but fourteen feet at its base and twenty-eight feet across the top; the strips of wood are about 2 $\frac{1}{2}$ inches apart at their widest point.

Where the Strains Centre.

Dealers who are at work this winter putting up a motor bicycle should bear in mind one incontestable fact, and that is that the greatest strains centre in a circle of about six inches diameter, with the lower head lug as an approximate centre.

"Motocycles and How to Manage Them"; 126 pages, 41 illustrations; cloth bound. \$1. The Goodman Co., Box 649, New York. ***

As well employ a hobo as a travelling representative as to conduct your correspondence on misfit stationery or send a poorly printed catalog to a possible customer, suggests L. L. Cline. In either case it will detract from the dignity of your house and likely leave an unfavorable impression.

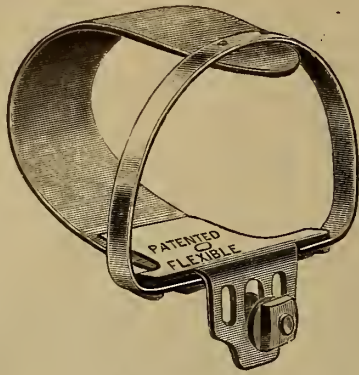
It is no great secret that the cycle trade of this country during 1901 was not of a nature to arouse general enthusiasm. But the real depth to which business has fallen has but just been brought home to us from across the sea. The English paper edited by the Irish O'Reilly—that hater of all persons and things American, dollars excepted—tells its readers that our "collapse" is so utterly utter that "people in America don't ride cycles except in cities, and so low has their intrinsic value become that it doesn't even pay to steal them from outside the stores where they are left unattended by their owners."

THE SUPERIOR Toe Clip

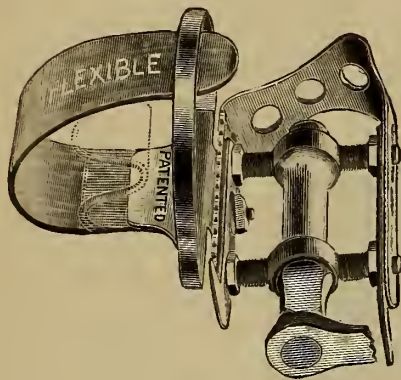
The superior TOE CLIP is our flexible and adjustable leather toe clip.

It's simple and durable.

It is attached on the inside of pedal plate, which prevents the clip from turning on the pedal.



Patented June 19, 1900.



COLE'S Flexible and Adjustable Leather Toe Clip

is built for long cranks and low frames. It cannot strike the ground. There is no pressure on the toes and no scratching of the shoes.

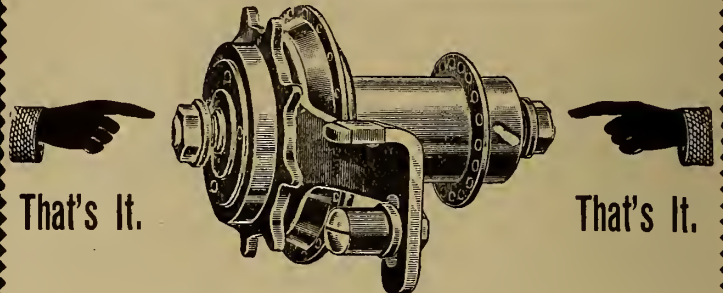
Send for Catalog No. 10.

ALL JOBBERS HANDLE
OUR GOODS.

G.W. COLE CO., 145 Broadway, New York.

Makers of the famous

THE COASTER BRAKE THAT Proved Worthy of the Highest Award AT THE PAN-AMERICAN EXPOSITION



That's It.

That's It.

THE UNIVERSAL.

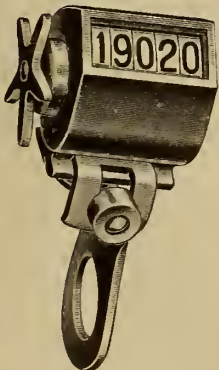
OUGHT TO BE WORTHY
of the investigation of every thoughtful man
INTENT ON THE PURCHASE OF COASTER BRAKES.

PARTICULARS AND PRICES ON REQUEST.

UNIVERSAL COASTER BRAKE CO., Buffalo, New York.

Veeder Cyclometers STAND ALONE.

10,000 Miles
and Repeat.



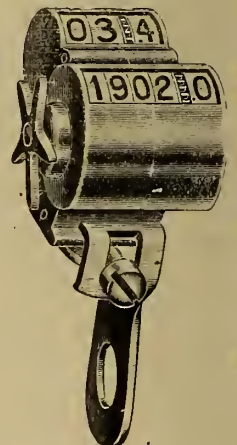
ACTUAL SIZE.

Competition has been silenced by sheer
... SUPERIORITY ...

Wheelmen no longer ask for a "CYCLOMETER."
They ask for a "VEEDER."
Those two words are synonymous.

Dealers can secure them from any jobber of consequence in the
United States. They are on sale in every
civilized country in the world.

10 000 Miles and Repeat
and Trip.



ACTUAL SIZE.

Makers of CYCLOMETERS,
ODOMETERS,
COUNTERS,
FINE CASTINGS.

THE VEEDER MFG. CO.,

CATALOGUE FREE.

HARTFORD, CONN.

RACING

After six days of fast riding and almost continuous sprinting, in which the riders in the Philadelphia six-days-eight-hours-per-day broke all world's records for a forty-eight hour race by 38 8-15 miles, Howard B. Freeman, of Portland, Ore., crossed the line a winner by a wheel's length, with Munroe second, Leander third and Wilson last.

Had it not been that Munroe was pocketed by Wilson, there might have been a different story to tell; despite this, he came around on the outside and, getting through, made a desperate effort to overhaul Freeman, finishing at the heels of that rider.

When the time came for the final effort all the men save Freeman, Munroe, Leander and Wilson, who represented the four leading teams, were called off the track. At the pistol shot announcing the last lap Freeman shot out on the backstretch and took the lead from Leander. Munroe was after them, and at the tape just nipped the place from Leander, with Wilson only a few inches behind.

It was a sensational finish, and the crowd which packed the armory to its full capacity were stirred to the highest pitch. The score at the finish was as follows:

	Miles.	Laps.
Freeman and Maya.....	1004	10
Munroe and McEachern.....	1004	10
Leander and Rutz.....	1004	10
Gougoltz and Wilson.....	1004	10
Chevalier and Fisher.....	1004	9
Hadfield and King.....	1004	6
Mueller and Barclay.....	1003	0

The best previous figures were 966 3-10 miles, made by McFarland and Elkes at Madison Square Garden in the six day race of 1900.

One of the features of the third day's racing at the Second Regiment Armory was the riding of Gougoltz. Wilson, his team mate, was ill and unable to ride; consequently Gougoltz was forced to ride the entire eight hours. During the afternoon Fisher and Chevalier lost a lap through a poor pickup made by Chevalier. A sprint was on at the time, and Fisher was nearly lapped. Chevalier relieved him by joining the front bunch, while Fisher was still far in the rear, a mistake which proved disastrous. Shortly before the finish a bad spill occurred through the swerving of Leander's wheel. Hadfield, who was riding next to him, fell, bringing down Freeman, Fisher and Gougoltz. Hadfield's collarbone was broken and Freeman's shoulder was sprained. The sprint at the finish was full of vim, Leander, Gougoltz, Munroe, Maya and Chevalier alternating in the struggle for the lead. On the sprint for the tape Gougoltz was in the lead, but the strain of his eight hour ride had evidently been too severe, for Munroe, coming around the track like a whirlwind, finished in the lead by a length, with Maya second. At the end of the third day's riding (twenty-four hours) the score stood:

	Miles.	Laps.
Gougoltz and Wilson.....	513	1
Freeman and Maya.....	513	1
Munroe and McEachern.....	513	1
Leander and Rutz.....	513	1
Hadfield and King.....	512	10
Chevalier and Fisher.....	512	4
Mueller and Barclay.....	512	2

The record, 510 miles.

The riding on Thursday, the fourth day, was devoid of exciting features, except that Fisher and Chevalier succeeded in regaining the lap lost through a bad pickup made by Chevalier on Tuesday. A steady and fast pace was maintained during the day. At the finish of the eight hour ride the racers were nearly twenty miles ahead of the best previous record.

At the crack of the pistol for the last mile Munroe, Maya and Leander led in the order named. On the second lap Leander went to



NEW YORK BRANCH: 214-216 WEST 47TH STREET

the front and maintained the lead until the eighth lap, when Munroe jumped, and, despite Leander's desperate sprinting, finished first. Leander second and Gougoltz third. The score for the thirty-two hours was:

	Miles.	Laps.
Gougoltz and Wilson.....	677	0
Freeman and Maya.....	677	0
Munroe and McEachern.....	677	0
Leander and Rutz.....	677	0
Chevalier and Fisher.....	676	11
Hadfield and King.....	676	9
Mueller and Barclay.....	676	1

Champion rode an exhibition mile on a motor bicycle in 1:25 2-5.

Sprint after sprint and jump after jump marked the riding of Friday. Maya rode 114 miles without a dismount, going five hours in the saddle from the start in order to save Freeman, whose shoulder troubled him. Early in the afternoon it became apparent that trouble was brewing between Leander and McEachern. The sprinting

started with McEachern the aggressor, Leander following closely. Several times the pair were far up on the bank. Finally the climax was reached, when McEachern switched his rear wheel and Leander hung dangerously close to the edge, with a drop of twelve feet before him. McEachern was warned by the referee, and after he dismounted an animated discussion took place.

Something very much like team work developed during the day, Wilson starting wild sprints and Freeman refusing to follow, making it necessary for the field to close the gap each time. Some foul riding developed also, Fisher being the injured party in a fall. He made a protest against Rutz for cutting down on him. Hadfield and Mueller lost a lap each, and Barclay lost another. Gougoltz led the last mile, with Freeman, Leander and Munroe on. In the sixth lap Freeman went up, with Munroe and Leander after him, a length apart, all around to the tape. The score at 10:30 p. m., the fortieth hour, follows:

	Miles.	Laps.
Freeman and Maya.....	842	10
Munroe and McEachern.....	842	10
Leander and Rutz.....	842	10
Gougoltz and Wilson.....	842	10
Chevalier and Fisher.....	842	9
Hadfield and King.....	842	6
Mueller and Barclay.....	841	9

Champion, on a motor bicycle, rode his first quarter mile, or three laps, in twenty seconds—a gait of 1:20 and a wonderful performance.

At Albany on Monday last Assemblyman Brooks introduced, at the request of the National Cycling Association, a bill designed to allow contestants to remain on the track for the first twenty-four hours and thereafter not more than eighteen hours a day. Participants who violate the section, or managers who permit it, are to be guilty of a misdemeanor. The New York law as it now stands prohibits any contestant remaining on the track more than twelve hours.

The historic Austral wheel race has been finally won by an American, William Martin, known the world over as "Pluggie Bill" Martin, of Lowell, Mass. The race, a two mile handicap, held annually at Melbourne, Australia, since 1886, is the nearest approach to an international Derby in existence today. The first prize is \$2,000. Martin rode from scratch, and is said to have won several thousands in wagers and otherwise.

Distribution of Motorcycle Weight.

The correct distribution of weight on bicycles promises to again come up, now that motor cycles are so rapidly coming into favor. It has been theoretically attempted in ordinary bicycles, but has never reached a practice. As at present constructed it is better to place the greatest weight at the rear, because the rear diamond is duplex all through and cross tied with the short braces that are placed just beyond the tire.

The Retailer; his Mission.

The great general public and the customers of the retail merchant look upon his mission in life as confined to a restricted circle, one the circumference of which includes the ordinary arts of attracting trade, supplying the demand for his goods and making a profit, said John A. Lee in an address to the St. Louis Retail Grocers' Association.

The retail merchant himself is prone to take such a view and conclude that his mission is confined to money making, eating, sleeping and dying.

It is a most hopeless and sordid view to take of life, and deprives one of all the brighter hopes, higher ideals and finer ambition of existence.

I think that a part of the retail merchant's mission is to accumulate money, thereby increasing his capital and his scope of usefulness, but there are duties that he owes to himself, to his family, to his city, State and country, and to God, who gave him life, which must not be overlooked.

The retail merchant can consistently regard himself as the guide and friend of the public taste and judgment as to qualities and values of merchandise.

If he is a dealer in food products he should

consider himself the guardian of the public appetite and public health, and permit no article to pass over his counter that is not of good value or that is even under suspicion of being unwholesome or detrimental to health.

If he is a dealer in drygoods or clothing, millinery, hats or shoes, he should not only endeavor to educate his customers up to buying the better qualities, but should so endeavor to direct their judgment as to induce them to buy tasteful and well fashioned and fitting articles, for he will thereby not only be doing himself a great service by giving good value and making his customers pleased and happy and well contented, but he will be performing the higher and grander duty of elevating the public taste and educating the people to observe higher standards and ideals.

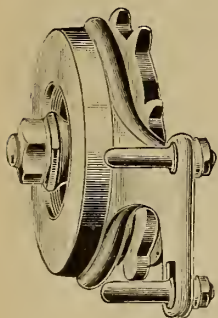
The retail merchants of the United States do not realize the great power for good that they possess, and which could be exercised and controlled by virtue of organization. There are in the United States 113,000 retail general stores, 103,000 retail grocery stores, and it is estimated that there are altogether 1,000,000 retail dealers in all lines in this country.

Their invested capital is estimated at an average of \$2,500 each, aggregating a total of \$2,500,000,000, an almost inconceivable sum—far greater than the combined wealth of all the Astors, Vanderbilts, Goulds, Carnegies, Rockefellers and many other great capitalists.

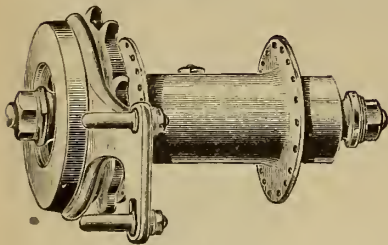
We hear a great deal in these days of the power of combined and incorporated capital and the crushing power of the great trusts. Those combinations can oppress labor and enslave the wholesaler, blast the prospects of the commercial traveller and defy the law; but when they encounter the American retailer they realize that they are in contact with a force that cannot be trifled with, and they bow to the ground. The courtesy is sycophantic, however, because they are even now looking for methods and experimenting with them whereby they can control retail distribution.

Should they, through the passage of a parcels post bill in the coming Congress, thereby converting the Postoffice Department into a special cheap delivery company for their products, and thereby, at the expense of the taxpayers and by special privilege of law, send their goods direct to consumers, the American retailer can realize that it is the beginning of his end.

The remedy for this and other actual and impending evils is through the power of influence or organized effort.



DETACHABLE.



UNIVERSAL.

PATENTED
June 12, Aug. 14, Dec. 35, 1900.
Feb. 19, Mar. 26, April 1, 1901.

Wyoma Universal

COASTER, BRAKE AND HUB COMBINED.
WILL FIT ANY BICYCLE. READY TO INSERT IN WHEEL BY LACING IN SPOKES.

Wyoma Detachable

MADE TO FIT THE LEADING STANDARD HUBS.
BOTH MODELS WILL ALLOW REAR WHEEL TO

RUN BACKWARDS.

FIVE PIECES, SHOWING CONSTRUCTION OF 1902 MODELS.

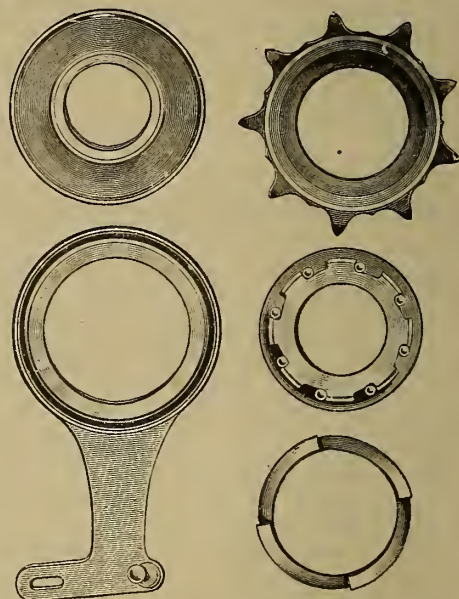
NO FIBRES.

NO BALLS.

FULLY GUARANTEED.

MANUFACTURED BY

Reading Automobile and Gear Company,
TENTH AND EXETER STS., READING, PA.

**SPOKES AND NIPPLES**

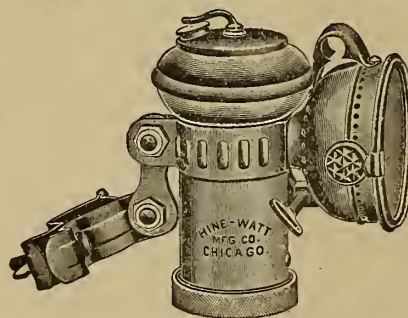
for **Bicycles, Motorcycles**
and **Automobiles.**

STANDARD

SPOKE & NIPPLE CO., Torrington, Conn., U. S. A.

COLUMBIA**AUTOMATIC GAS LAMP**

FOR BICYCLES, BUGGIES AND MOTOR VEHICLES.



Positively automatic water feed, i. e. the water feed is positively controlled by the gas pressure, which is regulated by a gas-cock.

No carbide wasted. Charge can be used repeatedly until exhausted, the same as in an oil lamp.

Lights at once. Turns down or out at once.

Uses one-half the carbide necessary in a large lamp, and gives as good a headlight as the best.

Height 5½ in. Weight 18 oz. 5,000 of these lamps in use on buggies, carriages and motor vehicles in Chicago this year.

We maintain prices.

We carry the stocks ourselves, and Jobbers who purchase from us can return all surplus of unused lamps, which are marked (Model C) to us at the end of the season.

Our goods are sold on their merits alone. It is not necessary for us to offer prizes. Fine art calendar for 1902 mailed free to the trade on receipt of letter head.

HINE-WATT MFG. CO., 60 WABASH AVE., CHICAGO, ILL.

If You are
Interested
in
Automobiles

**The MOTOR
WORLD** Devoted to the
Automobile
& Kindred
Interests

WILL SURELY
INTEREST YOU.

It is published for the information
of the average mortal; no dic-
tionary of mechanical
terms is needed to
understand it.

PUBLISHED EVERY THURSDAY
AT 123-125 TRIBUNE BUILDING,
NEW YORK CITY.

\$2.00 PER YEAR.
10 CENTS PER COPY.

SAMPLE COPY ON APPLICATION.

THE B & S WRENCHES
ARE STANDARDS OF EXCELLENCE
BUY THE STANDARD AND GET YOUR MONEY'S WORTH
10 & 12 INCH AUTOMOBILE WRENCH



MODEL A. MODEL 37 BICYCLE WRENCH
MODEL 7. CAM LEVER WRENCH
MODEL 8. GROUP PITCH MACHINE WRENCH

TRADE MARK
B

EVERY WRENCH BEARS THE COMPANY'S TRADE MARK
THE BILLINGS & SPENCER CO.
ESTABLISHED IN 1899
HARTFORD, CONN., U.S.A.

The Proper Standpoint.

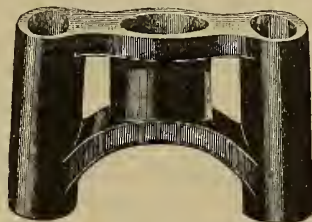
A progressive bicycle dealer who intends securing his share of the motor business bought a set of motor castings and started in to build a motor bicycle. He had many trials and tribulations, but, as he afterward said, "I wanted experience, and I certainly got it, and along with it more work and worry than I had bargained for. However, I am not complaining; quite the reverse, as the knowledge needed for the successful handling of motor bicycles can only be gained by experience, and I count my fall and winter work as a valuable asset."

The Old, Old Story.

A little store, a little head,
A little lack of "go-ahead,"
A little trade that smaller grows,
A little sheriff's sale to close.—(Ex.)

Making Motocycle Parts.

"On the side" the big parts manufacturing companies have seen the coming motor bicycle and have prepared for it in an unhesitating fashion that has no counterpart



in this country. Practically all of them are turning out not only special parts, but the complete fittings, and as a result not a few commendable designs have evolved; the accompanying fork crown is a fair specimen; its very appearance suggests strength and inspires confidence.

The Desirable in Motor Drive.

A motor bicycle is spoken of in the English trade papers that is driven by a chain direct from the engine to the rear wheel. The wheel hub is fitted with a coned friction clutch that allows a certain amount of slip in starting to avoid "killing" the engine or excess strain on the chain. After the motor gets down to work the clutch takes a firm hold and gives positive drive. This principle, without taking into consideration the wearing tendencies on the coned friction clutch, would undoubtedly furnish much that is desirable in motor bicycle driving.

The Most Flexible Commodity.

Advertising space is the most flexible of all commodities, says Printers Ink. It may be utterly worthless in incapable hands, but no one has ever set limits to the percentage of profit it will pay when rightly used. The man who has ability, foresight, individuality, a knowledge of human nature and courage can make it pay enormous dividends.

"How to Drive a Motorcycle." See "Motorcycles and How to Manage Them." \$1. The Goodman Co., Box 649, New York. ***

Why Worry
Over the Question:
OIL OR GAS?

Why not get a

LAMP THAT BURNS BOTH?

In other words

Why not get

THE ADMIRAL



THE ONLY LAMP

on the market in which kerosene or carbide may be used with equal facility.

It was a splendid seller during 1901; it will be a better one during 1902. Properly presented, no rider can fail to see the advantages of the lamp that permits him to use oil or gas "at his own sweet will."

THE ADMIRAL LAMP COMPANY,
MARYSVILLE, OHIO.

"PERFECT"



OILER.

For High Grade Bicycles. The best and neatest Oiler in the market. **DOES NOT LEAK.** The "PERFECT" is the only Oiler that regulates the supply of oil to a drop. It is absolutely unequaled. **Price, 25 cents each.**

We make cheaper oilers, also.

CUSHMAN & DENISON, Mfrs., 240-242 W. 23d St., NEW YORK.

Machine Steel for Bicycle Parts.

Time was when nothing but the best tool steel would do for cups and cones and other bicycle parts. Jessop's and Sanderson's were the brands most in favor, and 15 or 20 cents per pound was paid for these without a murmur.

The contention that the parts could be made out of machinery steel was looked upon as rank heresy. The latter was cheap, comparatively, and that was the first offense; then it was indisputable, so it was said, that it would not give the results that tool steel did, and this ended the matter. Of course, such ideas have long since undergone material modification, and to-day many of the best concerns use machinery and special grades of mild steel, case hardened, and have nothing but praise for the parts made from them.

One of the objections to machinery steel arises from its coarse grain. This peculiarity is treated at length by a writer in the American Machinist, who points out how this objection can be almost entirely overcome:

"Many pieces of work are made of tool steel when machine steel would answer the purpose as well or better, were it not for the coarseness of the grain when the piece is case hardened," he says.

"The fine grain may be necessary to resist pressure and wear on some small part of a surface, or possibly it is to be subjected to the action of blows, and, the grain being coarse, the surface has no backing and is

soon crushed in. The causes of the open grain are: First, that it is the natural condition of the stock; second, the pores are opened in the case hardening, when the steel is absorbing carbon; the higher the heat to which the pieces are subjected the coarser the grain.

"Many bicycle parts formerly made of the best steel are now made of machine steel, and excellent results are obtained. Such is not apt to be the case if they are simply case hardened by the ordinary method, as the grain is too coarse to resist the peculiar action of the balls, particularly on the cones and ball seats or cups. Spindles of machines, where there is considerable tendency to wear, also a pounding or yanking motion to resist, where hardened tool steel would be liable to break and ordinary case hardening would yield to such an extent as to make the bearings become out of round, can be treated very successfully by this method.

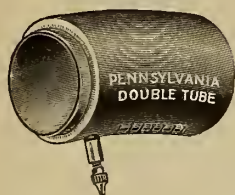
"All that is needed is a good hardening oven, large enough to receive as many hardening boxes or pots as we may need, a plentiful supply of pots, some granulated raw bone, a good supply of granulated charcoal, a small amount of hydro-carbonated bone and some charred leather for our nicest work. We should have a plentiful supply of water in a large tank, a smaller tank arranged that we can heat it to any desired degree, and a bath of oil. Raw linseed is the best for giving a hard surface.

"Pack the work the same as for ordinary case hardening, run about the same length of time and leave in the oven to cool, the same as for annealing. When it is cold a piece can be heated in the lead pot and hardened the same as tool steel; or, if the articles are small and there are many of them, they can be repacked in the hardening pot with granulated charcoal, but not with any form of bone or leather or any carbonizing substance, as that would have a tendency to open the grain. The object of the second heat is to close the grain. The lower the hardening heat the more compact it will be. This method not only gives a close grain, but a very strong, tough surface, and, the centre being soft, the piece is very strong."

Tourist Cars on the Nickel Plate Road.

Semi-weekly transcontinental tourist cars between the Atlantic and the Pacific coasts are operated by the Nickel Plate and its connections. Tourist cars referred to afford the same sleeping accommodations, with same class of mattress and other bedclothing, that are provided in the regular Pullman sleeping car service. These tourist cars leave Boston on Mondays and Wednesdays, and leave San Francisco on Tuesdays and Fridays. Berths in these tourist cars are sold at greatly reduced rates. Conveniences are offered without extra cost, for heating food, or preparing tea or coffee, affording every facility for comfort on a long journey, especially for families travelling with children. Lowest rates may be obtained always via the Nickel Plate Road for all points in the West. For special information regarding all trains on the Nickel Plate Road, including these tourist cars, consult your nearest ticket agent, or write A. W. Ecclestone, D. D. Agr., 385 Broadway, New York City. ***

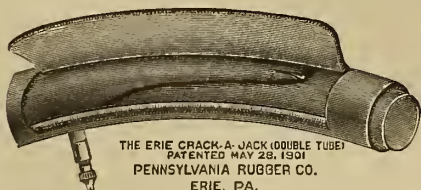
Jobbers, Be Wise!



Handle these
Goods and
MAKE MONEY.

STAY WITH THE GOLD MEDAL WINNERS.

Write for
our
1902
Price
List.



THE ERIE CRACK-A-JACK (DOUBLE TUBE)
PATENTED MAY 28, 1901
PENNSYLVANIA RUBBER CO.
ERIE, PA.

Don't close
until you
consider
our entire
line.

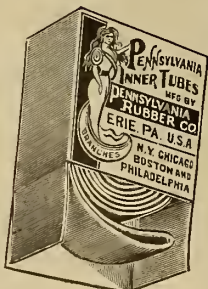
**PENNSYLVANIA
Rubber Company,**
ERIE, PA.

BRANCHES:

NEW YORK
BUFFALO

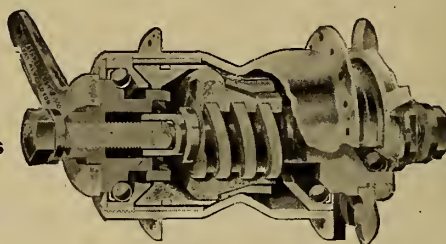
CHICAGO
PHILADELPHIA

BOSTON



CINCH Simple Goodness

No
contact
except
with balls
in
Coasting.



Self-
Releasing
Noiseless
Brake.

"THE ONE THAT COASTS."

**Coasts on bearings ground
true after hardening.**

RUNS THE SEASON WITHOUT OILING.

Have you tried
a CINCH?

Riggs-Spencer Company,
ROCHESTER, N. Y., U.S.A.

IF THE POSITION

and get-up of this advertisement appears somewhat unusual, just remember that it relates to an unusual saddle sold at an unusual price and covered by an unusual guarantee.



IF YOU HAVE NOT

informed yourself regarding the saddle, its price and its guarantee, you are simply letting dollars slip through your fingers.

**NEWARK
CYCLE SPECIALTY CO.,
NEWARK, N. J.**

The Week's Patents.

690,935. Pneumatic Tire. Alfred Ducasle, Paris, France. Filed Feb. 28, 1901. Serial No. 49,199. (No model.)

Claim.—A tire for vehicles consisting of a cylindrical body of rubber or other flexible material, provided throughout its length with a series of chambers having curved walls, each of which except the first and last is connected together in a circular series of chambers, each of which except the last is connected by small air passages, the first chamber of the series having an opening for the ingress of air.

691,147. Back Pedalling Brake. Robert M. Keating, Springfield, Mass., assignor to the R. M. Keating Motor Co., Portland, Me., a corporation of Maine. Filed Sept. 13, 1897. Serial No. 651,450. (No model.)

Claim.—1. The combination of a hub provided with an eccentric exterior portion and a concentric portion, a sprocket wheel mounted on said concentric portion, an eccentric split ring mounted in reverse direction on said eccentric portion and arranged to engage the sprocket wheel, and a surface adapted to be engaged by said ring when expanded, substantially as set forth.

His Work is Always Dun.

Some men work all night long,
And some from sun to sun;
But the bill collector has a snap—
His work is always dun.—(Ex.)

How Weights are Increased.

As an example of what the English dealer has to put up with, owing to the desire in that country to have the machines equipped, the following story is told by one who has recently heard of an experience:

The customer wanted a nice, light machine, one that he could easily pick up in handling on the trains. Finding one to his liking, he bought the machine, and then issued the following specifications: "The saddle is too small for me. I must have a model X 716. Don't want to be troubled with punctures, either; put on roadster tires. Must have a gear case, of course; have it metal, as that kind is much smarter looking. Put on good, wide pedals, so that I can use my shooting boots, and have them with rubbers. Free wheel, mudguards (metal) and a good, substantial rimbrake. Be sure that the tool bag is of ample size; it's a nuisance otherwise. While you are about it, put on a lamp and bell."

When he got all through he couldn't understand why the thing weighed between 14 and 15 pounds more than the listed weight.

Patent Office Wants Catalogs.

The United States Patent Office is anxious to receive from manufacturers and publishers such catalogues, circulars, price lists or other advertisements relating to the sciences and mechanical arts as are published by them for gratuitous distribution; but not less than three copies should be forwarded, however, in order that the subjects may be properly indexed, classified and subclassified in the Scientific Library for convenient and ready reference.

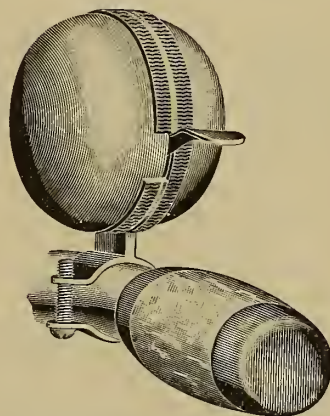
OUR NEWEST BELL

and one

WORTHY OF ITS NAME

The

Royal Chime



IT'S A GOOD ONE;
AND A RARE
GOOD SELLER,
TOO.

IT'S TIME

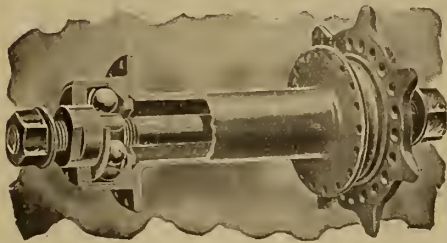
to get quotations and
make ready for the demand if you have not
already done so.

**BEVIN BROS. MFG. CO.,
East Hampton, Conn.**

Makers of Toe Clips, Trouser
Guards, Lamp Brackets, etc.

CHAMPION HUBS

Write for Complete Description and Prices.



LIGHT WEIGHT RACING MODEL.)

ALSO REGULAR ROAD HUBS.

Worthy of Their Name.

VULCAN HUBS.

Cheap but Good and Well Worth Their Price.

L. A. WESTON CO., Syracuse, N. Y.

Selling Agents, C. J. IVEN & CO., Rochester, N. Y.

HIGH GRADE

wheels must have the
best equipments.

There is nothing that gives more value for
the money than the use of the

MORSE TWIN ROLLER CHAIN



NOISELESS IN MUD, WATER OR
DUST AND ALWAYS EASY RUNNING.

The only chain having Frictionless
Rocker Joints. Insist on having the
Morse Twin Roller. Fits regular
sprockets.

Send for Catalogue and
Trade Price to

Morse Chain Co., Trumansburg, N. Y.

WANTS AND FOR SALE.

15 cents per line of seven words. cash with order.

A MOTOR BICYCLE for \$2.50 per week.
An automobile for \$12.50 per week. Send
stamp for particulars. Automobile and Motor-Bi
Co., Room 814, Colonial Bldg., Boston.

FOR SALE—First class bicycle, gun, and
sporting goods business in a growing city,
present population 20,000. Comparatively no
competition. Ill health reason for selling. Cor-
respondence solicited. Address P. O. Box 437
Meridian Miss.

FOR SALE—Five Enameling Ovens and com-
plete outfit. Start now and make big money.
Write at once for a bargain. 19 East Main St.,
Ft. Wayne, Ind.



Century Cycles

couldn't be better.

MILWAUKEE CYCLE CO., Milwaukee, Wis.

NEVERLEAK

STOPS LARGE PUNCTURES.

This is the only fluid that can be legally used in pneumatic
tires. Suits now pending.

BUFFALO SPECIALTY MFG. CO.,
Buffalo, N. Y.

THE ARMSTRONG "A" CRANK HANGER



is conceded by competent judges to be the
most perfect in point of design, mechan-
ical construction, finish and materials used,
that it is possible to produce. Made in
one grade only, the highest. Handsome
in appearance; simple in construction; easy
and positive adjustment. We make the
most complete line of bicycle frame fit-
tings and crank hangers on the market.
Our 1902 prices are low. Write for them.

ARMSTRONG BROS. TOOL CO., Chicago.

HAND AND FOOT PUMPS,

Oilers, Repair Tools,
Valves, Name-plates, etc.

Spelter Solder

Sheet Brass,
Brass Wire and Rods.

SPECIALTIES to order
MADE of BRASS.

SCOVILL MFG. CO.

Factories: Waterbury, Conn.

Depots: 210 Lake St., Chicago.

423 Broome St., New York

IDEAL HANDLE BARS

The Standard Bars of America

Get our new prices on bars and extensions for 1902 and
you will be agreeably surprised. Electros for the asking.

IDEAL PLATING CO., 3 Appleton St., Boston, Mass.

THE CROSBY COMPANY,

BUFFALO, N. Y.,

Sheet Metal Stamping.



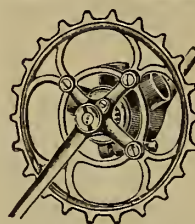
THE MAGIC

A COMPLETE REPAIR TOOL FOR ALL
SINGLE TUBE TIRES.

HAS A POINT ONLY $\frac{1}{16}$ IN. DIAMETER.

THE MAGIC is as good as ever. But prices are dif-
ferent. Get our new quotations for 1902 and you
will be right in it. You will find it well worth the
trouble.

THE MAGIC REPAIR TUBE CO., 250 LARRABEE ST., CHICAGO, ILL.



"D. & J." HANGERS



FOR

Single,
Tandem,
Triplet,
Quad and
Motor Cycles.

Lightest, Nearest Dust Proof, and
Easiest Running Hanger in the World.
Park City Mfg. Co., Inc., Chicago

"LIBERTY" CHIMES BICYCLE and MOTOR CYCLE BELLS

Original in Design.

Practical in Construction.

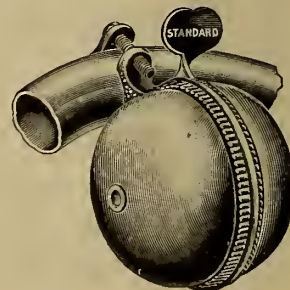
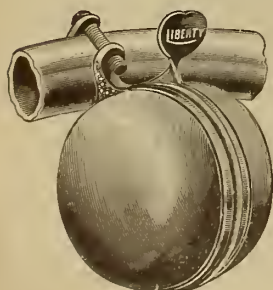
Superb in Finish.

In a word their general excellence has made them
pre-eminent everywhere.

FOR SALE BY ALL THE LEADING
JOBBER.

USED BY ALL DISCRIMINATING
PURCHASERS.

LIBERTY BELL CO., Bristol, Conn.



The Bicycling World

AND MOTOCYCLE REVIEW.

In which is incorporated "The Wheel and Cycling Trade Review" and the "American Cyclist."

Volume XLIV.

New York, U. S. A., Thursday, January 30, 1902.

No. 18

FORMED IN 'FRISCO

Californians Organize a State Board of Trade and Inaugurate Several Reforms.

Unprecedented by flourish of trumpets or advance agents, the trade of California has set an inspiring example to the trade of the rest of the country by bringing into being the California State Cycle Board of Trade. The organization was brought about as the result of a three days' session in San Francisco, January 9 to 11.

The call for the meeting was issued by the San Francisco Cycle Board of Trade. The response was hearty, dealers from nearly all of the larger cities and towns being in attendance. The gathering was of sufficient importance to be welcomed by the Mayor of San Francisco in person, who, in his address, promised to do all in his power to improve and extend the roadways and cycle paths in Goldengate Park.

After adopting the constitution and by-laws of the 'Frisco Board of Trade with such amendments as were required to make them Stately in scope, the following officers were elected to serve during the current year: President, M. J. Kenny, San Francisco; vice-president, E. H. Crippen, Los Angeles; secretary, J. A. Briegel, Oakland; assistant secretary, P. H. Lyon, Los Angeles; treasurer, F. M. Jones, Sacramento. Board of Directors: E. R. Braley, Pasadena; Charles Dibble, Santa Clara; I. P. Allen, San Francisco; J. A. Desimone, San Jose; George Faulkner, Oakland; C. Bell, Pomona; T. C. Moore, San Bernardino; E. J. Thiebault, Oakland; James Banta, Sacramento; W. H. Hoegge, Los Angeles; J. W. Leavitt, San Francisco; A. G. Dexter, Alameda; H. Schwartz, Napa; A. H. Wright, Stockton; George Schilling, Santa Rosa; H. P. Smith, San Jose; Fred Gregory, Fresno, and W. L. Tibbals, San Diego.

There was also appointed the following committee on harmonization of repair prices: P. H. Burke, Los Angeles; E. J. Thiebault, Oakland; I. P. Allen, San Francisco. It will be their effort to make the prices uniform throughout the State. Their conclusions will be submitted to all the local boards of trade for their approval before final adoption.

The basis of installment sales was a subject of considerable discussion, but after all had been said, the following tariff of minimum rates and maximum times, on lease agreement only was adopted:

List Price.	In- Payment		Time Allowed.	Monthly Payment.
	stallment Before Delivery.	Price.		
\$20.00	\$22.00	\$10.00	2 mo'ths	\$6.00
25.00	28.00	10.00	3 "	6.00
30.00	34.00	10.00	4 "	6.00
35.00	39.00	10.00	4 "	7.25
40.00	45.00	10.00	5 "	7.00
45.00	50.00	10.00	5 "	8.00
50.00	55.00	15.00	5 "	8.00
55.00	60.00	15.00	5 "	9.00
60.00	65.00	15.00	5 "	10.00
65.00	70.00	15.00	5 "	11.00
70.00	75.00	20.00	5 "	11.00
75.00	80.00	25.00	5 "	11.00
80.00	85.00	25.00	5 "	12.00

It is provided that if at any time a customer wishes to make full payment in shorter time than contracted for, a proportionate reduction of the installment charge will be accepted.

There was also adopted the following schedule fixing the net prices of tires, castings and tubes when applied to wheels:

Unguaranteed tires	\$2.50 each.
Sixty days' guaranteed tires.....	3.00 "
Morgan & Wright or Goodrich M. & W.....	3.50 "
No. 55 Fisk, No. 70 Hartford, No. 19 Goodrich, Defender Special..	3.75 "
No. 88 Fisk, No. 77 Hartford.....	4.00 "
Fisk Puncture-Proof, Fisk Tandem, No. 80 Hartford, Hartford Special, Hartford Thorn, No. 999 Goodrich, No. 19 Goodrich Tandem, No. 19 Goodrich Anti-Cactus, Cataplero, Milwaukee Puncture-Proof, Goodrich M. & W. Special	4.50 "
G. & J. Dunlop, Palmer, No. 999 Goodrich Anti-Cactus.....	5.00 "
Palmer Export	5.50 "
G. & J. Casings, Dunlop Casings..	3.75 "
G. & J. Inner Tube, Dunlop Inner Tube	1.75 "
Hartford Inner Tube, M. & W. Inner Tube	1.50 "
Goodrich M. & W. Inner Tube....	2.00 "

(If customer purchases any of the above and they are not put on a wheel by the seller, the price is 25 cents less).

After adjourning until the second Tuesday in January, 1903, the visitors were banqueted at the Maison Alladio by the San Francisco members.

JOBBER'S GIVE WARNING

New Englanders Organize and Hand Down a Declaration of Rights and Intentions.

New England's jobbers are on the war-path. For some time past they have had grievances which they believed demanded attention, and individual effort failing of effect, an organized protest has been lodged and warnings issued.

The meeting was brought about very, very quietly in Boston on Monday of last week, practically all of the larger and better known New-England jobbing houses being represented. The outcome was the organization of the New England Jobbers' Association, with these officers: President, D. B. Harvey, Iver-Johnson Sporting Goods Co., Boston; vice-president, Thos. B. Varick, Manchester, N. H.; treasurer, H. H. Rich, American Cycle Manufacturing Co., Providence; secretary, W. A. Clark, E. P. Blake & Co., Boston.

The protest and warning referred to took the form of this resolution:

Resolved, It is the sense of this meeting that irrespective of goods already catalogued all members of this association in becoming members pledge themselves not to push, but to discourage the sale of all goods in the cycle sundry and accessory line that are sold in New England by manufacturers and the retail trade at jobbers' prices or at prices less than a reasonable advance over regular jobbers' prices.

The house represented were as follows:

Iver Johnson Sporting Goods Co., William Read & Sons, Biglow & Dowse, E. P. Blake & Co., Brown & Wales, Baldwin & Robbins, all of Boston; American Cycle Manufacturing Co., Providence; Post & Lester Co., Hartford, Conn.; Henry Horton, New Haven, Conn.; Thomas B. Varick, Manchester, N. H.; James Bailey & Co., Portland, Me., and T. B. Davis Arms Co., Portland, Me.

Those concerned say that the resolution means exactly what it says—that they have taken their stand against the indiscriminate quoting of jobbers' prices to every Tom, Dick and Harry, not to say combinations of such persons, and they mean to maintain it. When given such offense, they or their travelers will no longer "pass along the line" the good words that so help the sale of a particular article when it is desired that it be pushed.

COASTING ATTITUDES

Why no Settled Position is Likely—Use of Coaster Brakes on Motorcycles.

When users of coaster brakes get together and discuss matters, the white dove of peace and brotherhood hovers about so long as the discussion keeps to the main subject of desirableness and the added pleasure the device gives to cycling, but just let some one in the party drop a word or two about position. The result reminds one of an old time club run. The start would be made in nice orderly fashion, and every member seemed to take pride in keeping in line. As soon, however, as the narrow bounds of city streets were left and a fairly open country reached, some one in the back ruck would move up just a little, to escape some of the dust, then another would try it, and in a flash the scorch was on, only to finish at the point named as the destination in the call for the run.

The whole trouble is that so many take it as a personal disappointment that the position they advocate is not accepted, when the fact really is that individual ideas in this rule from the same cause that they do in all other things; local causes and environments when the thing was new. This is the case with most people in most things. There are always iconoclasts, however, and now and then someone is met who yields to no one in his loyalty, although he is not a shouter or a "rooter." Those of this element who use coaster brakes keep to no fixed position, never varying it under any circumstances, but change from time to time, either for the comfort of the change or for special reasons that seem good to them from observation and practice.

Obviously under no other condition is the coaster brake used to the extent that it is in motocycling, and several thousand miles ridden on motor bicycles and motor tricycles has convinced a member of the Bicycling World staff that different road and speed conditions are best met by different positions of the feet. In turning corners, on either machine, the inside foot should be kept down and in tricycle riding there should be a tendency to lean the body toward the inside of the turn. It will be equally advantageous to keep the feet in this same up and down position in riding over greasy or very muddy surfaces. This was thoroughly well proved in the endurance run of last September from New York to Buffalo.

It is pretty generally known that it rained from Tuesday afternoon to Friday night of that week, but it is not so well known that it rained during three days of the previous week. Not only was the endurance trip made on a motor bicycle, but the week previous the same machine was ridden from Buffalo to New York. In the several hun-

dred miles covered in rainy weather during the two weeks, all kinds of mud surfaces were encountered, and constant testing during the first week's ride showed that a decided advantage was gained on slippery roads by keeping the feet in an up and down position. On rough surfaces there also seemed to be an advantage in this position when it was purely a question of ruts, but when it was a case of merely chopped up surfaces, the position of fore and aft gave better control. For running along on good surfaces the position is entirely a matter of choice, although from a large personal experience and from watching others it can be stated that no matter what the preferred position may be on pedal driven bicycles, that position will ordinarily be changed from time to time when riding motor bicycles, because of the longer trips that are so natural a result of the mount.

Auto-Bi Radically Altered.

The aggressive policy pursued in marketing the Auto-Bi last year has naturally made the many agents established look forward to the output for 1902 of the Buffalo Automobile & Auto-Bi Co., which has not only taken over the motorcycle business of the E. R. Thomas Motor Co., but that will place in the market at least two styles of vehicles to be marketed through agents.

In the new Auto-Bi for 1902 but little trace of the past season's product is apparent, the whole machine being new from the ground up. In appearance it leaves little to be desired, being symmetrical, compact, and in fact, seems to have all that popular imagination has pictured a motor bicycle to be and even a little more.

While it is yet too early to give a detailed mechanical description of the machine, it can be said that the motor is set upright, the tread considerably narrowed and a number of exceedingly ingenious and what appears to be entirely practical devices are embodied in the construction. The makers strongly assert that these devices are entirely practical, each one having been thoroughly tested over all kinds of roads and right into the winter, the machines being in constant and daily use, no matter what the weather.

It is the intention of the company to pursue a vigorous campaign, and they feel assured that the educating which they so ably commenced will be much advanced the coming season.

Brussels' Show.

The "International Exposition of Mechanical Locomotion" will be held in Brussels, Belgium, March 8 to 17. Bicycles and automobiles will, of course, constitute the chief features of the show.

Liberty's Side Line.

The Liberty Bell Co., Bristol, Conn., has added a golf counter to its manufactures. It is an ingenious device in book form and of pocket size, which obviates the need of a pencil in "keeping tabs" on the game.

SWEEPING GUARANTEE

Makers of Marsh Motor Bicycles Adopt One That is Radically Explicit.

While the matter of a proper guarantee for motor bicycles has been occupying the minds of many, the Motor Cycle Manufacturing Company, Brockton, Mass., has settled the question so far as the Marsh is concerned and in language that does not permit much room for doubt. This Marsh guarantee was not decided on until after the 1902 catalogue had been issued, so that it may well be considered as being "up to the very minute." It not only covers the calendar year, but is probably the most explicit that ever has been issued by anyone identified with the cycle trade. It follows:

We guarantee our motorcycle to carry the rider a mile in two minutes or better, and that it will carry a rider weighing 175 pounds up a 10 per cent. grade at the rate of ten miles per hour. And we hereby agree with the purchaser that in the event of the motorcycle failing to perform either of the above named achievements, we will replace it with another or refund the money.

The Motor—We guarantee the motor to work perfectly at all times, provided that it is kept oiled as per our instructions, and to develop $1\frac{3}{4}$ actual brake horse power. We guarantee it to do this, whether attached to our motorcycle or bought separately, and if it fails to do as above said we agree to refund money to the purchaser. We further agree to replace any part that becomes broken in ordinary usage (collisions excepted), or that wears out through continuous hard service.

Carburetter—We guarantee our carburetter to supply to the engine at all times a mixture that will give the maximum amount of power that it is possible to be derived from a given size of engine. That it can be adjusted to meet a range of gasoline whose specific gravity ranges from 68 to 80 degrees. That it will not be affected by heat or cold. That it will not flood the engine with gasoline. This part of the guarantee applies to the carburetter, whether attached to our motor or bought separately.

Spark Coil—We guarantee the coil to work perfectly at all times, provided that it is connected with the necessary battery power, i. e., 4 cells of 6 amperes and $1\frac{1}{2}$ volts per cell, and that if it fails to do so we will replace it with another.

The Ignition Plug—We guarantee our new and improved ignition plug to work perfectly at all times, provided that it is kept clean, and will replace it if it becomes broken or fails to work at any time.

The Belt—We guarantee the belt to transmit the power from the engine to the rear wheel without any noticeable slippage, and the same to withstand all strain that it is subjected to while performing the service required of it; and if at any time it should become worn out or fail to transmit the power we will replace it with a new one.

The above guarantee is in force for the calendar year of 1902.

AMERICA'S LOSS, \$461,824

Increases in Unexpected Places Fail to Offset General Decline in Year's Exports.

During the year 1901 the United States cycle export trade declined in value exactly \$461,824, from \$3,061,061 in 1900 to \$2,599,237.

The statistics contain not a few surprises, but none of greater magnitude than the unexpected increase of \$60,000 in the exports to the United Kingdom. The peculiarity of the increase is that it comes at the very time when the British cycling press is persistently informing its readers that the American "invasion" has failed utterly, and the "invaders" themselves been kicked into the sea. The gain of \$28,000 in France and of \$26,000 in war-ridden Africa are also among the unlooked for happenings, while the \$35,000 increase in China is something that no man in his proper senses would have dared predict at the opening of the year. Mexico and the Central American countries also developed upward tendencies.

The left side is, however, the more unpleasantly formidable. Anti-American Germany, of course, accounted for a substantial loss of trade, which the other and unclassified countries that appear under the head "other Europe" augmented substantially. The decline in British North America was discounted in advance; in all human probability the decline will continue with the years. The Philippines, like Cuba, also "slumped" after the hurrah and novelty of the "bicycle fever" had passed. Losses were general throughout South America, where Germany is reported to be gaining ground, but where cycling depression also exists. Japan and Australia likewise reduced their purchases.

The details of the month and of the year follow:

Articles and Countries.	December—		12 months ending December—		
	1900. Values.	1901. Values.	1899. Values.	1900. Values.	1901. Values.
United Kingdom.....	\$18,386	\$19,415	\$684,536	\$442,899	\$502,163
France	3,341	16,960	450,829	181,972	209,706
Germany	8,017	24,982	807,015	340,944	227,966
Other Europe	39,179	31,039	944,950	670,876	527,114
British North America.....	5,137	3,834	536,876	369,119	291,026
Central American States and British Honduras	288	578	4,820	2,727	6,132
Mexico	1,873	3,246	41,897	15,901	23,862
Santo Domingo	54	9	330	366	841
Cuba	1,581	1,552	111,702	68,446	14,345
*Porto Rico .....	...	...	2,771	1,461	...
Other West Indies and Bermuda.....	3,031	3,782	63,965	49,523	50,300
Argentina	3,879	1,262	272,995	75,694	9,174
Brazil	783	279	35,065	19,055	6,249
Colombia	21	200	7,834	3,525	912
Other South America.....	3,184	2,066	65,365	41,604	29,473
Chinese Empire	1,225	2,116	23,822	21,333	56,093
British East Indies.....	4,879	6,819	128,244	63,322	57,799
Hongkong	1,679	50	9,769	10,499	3,735
Japan	19,587	22,172	138,155	245,622	223,787
British Australasia	25,371	20,692	239,022	227,534	198,886
*Hawaii .....	...	...	45,466	32,473	...
Philippine Islands.....	6,344	4,543	2,461	71,738	33,895
Other Asia and Oceania.....	2,576	1,413	51,058	28,618	23,451
Africa	9,946	13,255	151,063	76,373	102,046
Other countries .....	...	...	274	417	282
Total	\$160,361	\$180,264	\$4,820,284	\$3,061,061	\$2,599,237

*No longer included in statistics.

Motor Bicycles for Flighty Hearts.

"When the general public awakens to a full appreciation of the motor bicycle," said one of the motorcycle pioneers, "it will be found to appeal to very many people to whom the pushing of a pedal driven bicycle was fraught with considerable concern, if not danger.

"Take my own case as an example. I have a flighty heart, and the least undue exertion starts it thumping like a trip hammer. As a result I had never experienced any of that exquisite delight that comes of 'doing' the other fellow that I had heard men tell about. The few times that I tried it, left me, if not a nervous wreck, at least in palpitating dread of possible consequences. It was the same in climbing hills. I often walked grades that my wife rode without trouble. Instead of waiting for her, she waited for me. The man whose heart is sound cannot even begin to understand the feelings of such chaps as myself who are not so fortunate.

"When the motor bicycle put in an appearance, it did not take me long to realize that deliverance was finally at hand. I bought one in short order, and last summer for the first time I really got all the pleasure there is in cycling. I have literally laughed at the hills and have 'done up' a sufficient number of the fellows who tried to hang on to make up for all past deficiencies in that regard. Hills and exertion no longer fill me with dread, and, as I said, when men with weak hearts, or weak lungs or legs or weak anything else, learn that there is at last a bicycle that places them on an equality with any other man who happens along, orders for motor bicycles are sure to follow."

ENGLAND'S GAIN, \$232,325

Year 1901 Marks Her Recovery of Export Prestige and Forces us Into Third Place.

So well had shadows cast themselves before that England's recovery of export prestige was as easily foreseen as was America's loss. With Germany assured of first place for the last three months of the year 1901, it was simply a question as to whether Great Britain would succeed in passing the United States and land in second place, and statistics just to hand prove that Great Britain did that very thing.

The increases which set in early in the year were maintained to the close, December winding up with a record of £65,567, as against £38,566 in December, 1900, an increase of 85 per cent., and £44,001 in December, 1899. The total for the year was £577,055, against £530,590 in 1901, and £662,081 in 1899.

Concurrently England's cycle exports diminished as substantially—from £286,796 in 1899 to £194,848 in 1900 and £176,355 in 1901.

Rochester Retires Gracefully.

The New York Supreme Court last week granted an order dissolving the Rochester Cycle Manufacturing Co. The application was made by the directors. The court was informed that the company is solvent, the assets being placed at \$20,000, of which amount \$14,601.10 is in cash. When the bottom fell out of the company's bicycle business, which was never pushed particularly aggressively, the construction of automobiles was taken up, but to no purpose.

Keating Likely to Continue.

The much negotiated transfer of the plant of the Keating Wheel & Automobile Co., at Middletown, Conn., to the Eisenhuth Horseless Vehicle Co., has been finally completed. Incidentally, it is stated that Robert M. Keating will in all likelihood engage with the new owners and continue the manufacture of his motor bicycle.

Coddling Quits.

The Coddling Manufacturing Co., Bristol, Conn., is about to go into the hands of a receiver. At one time they cut a figure in the cork grip trade, but have been practically out of it for more than a year. Liabilities are placed at \$50,000; assets not named.

Is now "Managing Director."

At the annual meeting of C. B. Barker & Co., Limited, Harris Parker, manager of the Barker cycle interests, was elected a director of the corporation—strong evidence that his worth and his ability in placing the department on a paying basis is appreciated.

Of all the newspapers published in the world, 68 per cent are printed in the English language.

IT WAS A NATIONAL CHAINLESS THAT PAYNE RODE



MODEL 50 NATIONAL CHAINLESS.

From
New York
to
Buffalo
in
42 Hours
55 Minutes

beating the record
over an hour.

They are better than ever for 1902.

NATIONAL CYCLE MFG COMPANY,
BAY CITY, MICHIGAN.

Equal them—If you can.

Investigate the merits of other tires—find out what they are made of, how they are made and how much they cost. Then look up the

FISK TIRE.

It will stand investigation. It will stand comparison. It will stand use. Why? Because it is made right—right materials, right methods of construction.

You cannot find a better tire than the Fisk—you can easily find many that are inferior to it. All we ask is an investigation.

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604 Atlantic Ave.

SPRINGFIELD,
40 Dwight St.,

NEW YORK,
83 Chambers St.

PHILADELPHIA,
916 Arch St.

SYRACUSE,
423 So. Clinton St.

BUFFALO,
28 W. Genesee St.

DETROIT,
252 Jefferson Ave.

CHICAGO,
54 State St.

SAN FRANCISCO,
114 Second St.

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and MOTORCYCLE REVIEW

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Members of the trade are invited and are at all times welcome to make our office their headquarters while in New York; our facilities and information will be at their command.

To Facilitate Matters Our Patrons Should

Address us at P. O. Box 649.

NEW YORK, JANUARY 30, 1902.

Juggling With Jobbers.

Regardless of any particular grievances, real or fancied, that they may have, the action of the New England jobbers in getting together and making protest, recalls that the day is approaching when the question, What constitutes a jobber? must be finally settled.

As things now stand, generally speaking, a letter head makes a jobber and seems to entitle him to jobbing quotations.

The matter has almost reached a state of absurdity. When "jobbers," so called are to be found in almost "every cross roads village and farm"—and they are to be found in such places—places that appear only on township maps and that have but two trains a day and support only two churches, a postoffice and the usual "general store," the situation is really akin to the ridiculous.

The very names of some of the places show the absurdity of granting jobbers' quotations, and yet it is not difficult for the

possessor of a letterhead to obtain such figures.

It really is high time that something was done to bring about a logical definition and a reasonable condition of affairs and quotations.

Something more than a letterhead should be necessary to make a jobber, and to that and a much further extent the movement inaugurated in Boston marks a much to be desired initiative. For this reason, at least, it is possible to overlook selfish personal ends which are said to have inspired the meeting.

From First Place to Third.

Contrasted with the falling off of nearly \$1,800,000 in our export trade during the year 1900, the loss last year of \$461,824, as detailed in another column, is, comparatively speaking, a mere bagatelle.

This is a convenient way in which to "let ourselves down easily," but it is cold comfort, nevertheless, and should lull none into a sense of false security, if, indeed, anything of the sort were possible.

To the man who believes that the United States takes no backward steps and to whom the export statistics of our competitors are available, the record of 1901 is what the vernacular describes as a "facer."

It is a situation difficult to fully understand or to reason why, but the fact remains that we have toppled from our high estate. We are no longer the world's leading exporter of bicycles. We are not even in second place. First Germany and then England passed us, and we are now a poor third.

The German totals are not yet to hand, but enough is known to say that that empire, despite its industrial depression and disgruntlement, improved its record of the previous year, and that England did as well if not better. In the latter case the increase amounted to \$232,325, or from \$2,652,950 in 1900 to \$2,875,275 in 1901. And in the instances of both Germany and England, they were beset by our competition while we had our field all to ourselves.

Comment cannot add to the impressiveness of these bare facts and figures.

The Bicycling World early saw what was coming, and urged the American trade to renewed action. But to no purpose. The trade appeared to have no spurt left in it, and seemed to accept its shrinking trade with little or no concern.

At this time preaching and urging will serve small purpose, and has been of small effect. We had supposed that our trade had

learned its lessons pretty thoroughly, but only this week we were told by a German visitor that the largest American cycle manufacturer is "drumming" that hostile territory with a traveller who cannot speak the German language, and who is endeavoring to do business on the cash-against-bill-of-lading relic of boom years.

It is instances of this sort that dampen the hopes that our recovery from the domestic depression that has weighted the trade of late years will carry with it an increase of foreign trade.

It is only possible to write the year 1901 a disastrous one, and to hope that the scales may yet fall from American eyes.

The Motor Tandem.

Time was when the tandem had a sale that kept the factories of the country in a fever trying to keep anywhere near promised deliveries. For a family to own two or more bicycles was a mere commonplace; the hallmark of cycle ownership was to possess a tandem. Now none so poor to do it reverence.

To-day tandems can be had for cartage fees and yet go begging for takers. Why this should be has been told in many words and many reasons given. But the simplest and therefore probably the nearest to the truth is that in family use the work was altogether too one-sided.

Even those who gave up tandem riding are both glad and willing to admit that it theoretically added to the pleasure of cycling because of the close companionship it insured. The one-sidedness of pushing was the nail in its coffin, and because of this many were the family tiffs that it occasioned, with the result that it was eventually relegated to the cellar or the second hand dealer.

Looking back at its possibilities for pleasure and looking forward to the possibilities that the small motor holds out for cycling, one can hardly fail to believe that the combination is sure to be worked out for the good of both. This combination may be worked out in some new form, or it may be that it will be an adaptation of existing construction.

The latter condition naturally presents the easiest solution and has been taken advantage of by many dealers during the past year, one motor company alone having sold its attachable outfits to a considerable extent for this purpose. Wherever bicycle dealers have taken the cue offered them last spring by the Bicycling World, they have

given very clear views as to the satisfaction afforded, and many of them intend pushing the matter this season, now that they have had sufficient experience to satisfy themselves as to the results.

Of course, in equipping tandems with reasonably powered motors, too much should not be expected of the motor under severe conditions on stiff grades. It will be wiser and the satisfaction of use more complete if it is realized that the equipment is really an auxiliary that will carry two along good surfaces and over slight grades without assistance at a reasonable rate of speed. For rational riding, the combination will afford many miles of pleasure. To expect mountain climbing will prove disappointing.

Merchants vs. Storekeepers.

If indications count for anything, and they are not wanting, the retail selling season promises to start unusually early this coming season.

It seems as though the much talked of "beginning of the selling season" is a matter that is largely in the agents' hands. But how many agents appreciate this vital fact or take advantage of it? Instead of doing as almost any other class of merchants do with new offerings, present them as attractively as possible, the average bicycle agent is content to have his new wheels come in, placed in a conspicuous position in the window and in the front of the store, where they make a brave showing for a time against a background of dust-covered left-overs, whose dulled nickel and faded black enamel bring up unpleasant recollections and destroy the zest and interest the newer offerings create.

Dilapidated wheel racks, soiled showcases through which appear shop worn sundries, disordered shelves and other earmarks of careless or indifferent shopkeeping, do not make an inviting interior or a favorable impression. Such things are apt to make a lasting impression, however, and to keep customers away until the balmy days of spring rouses their cycling spirit and fairly drives them to see the new season's offerings wherever they can be found.

The cosiness of "late seasons" was well illustrated by the trade's experience last year.

Let the selling season begin now. Give the store a thorough overhauling, wash the windows, keep all the stock, new and old, clean; keep the nicked parts on everything polished and bright, the frames free from dust, wheel racks and stands in repair,

in a word, keep your store "up," and your respect for yourself and your business will be immeasurably increased. This in turn begets the respect of others, and the fight is easily won. Attractive cards, an announcement in the local papers that the new season's models have arrival and are ready for inspection, invitations mailed to old or prospective customers, all serve to stimulate interest and let the people know you are alive. The world you know doesn't need so much to be convinced as to be reminded.

In brief, be a merchant, not a mere storekeeper.

Fools and Worse.

Despite the fact, abundantly demonstrated, that the attachment of a motor to a bicycle as ordinarily constructed is closely akin to certain disaster, there are still those who advertise for business of the sort.

The subject has been harped on so often that at this late day it would seem that none can remain in ignorance of the danger that is invited by the use of converted bicycles of the sort, or of the culpability of the men who for the sake of a few paltry dollars, will advocate their sale or the sale of motors for such purposes. If they received their just deserts a term in jail would be none too good for them.

As knowledge of motorcycles increase, the discriminating purchaser will discover that the quality of the bicycle is of as much, if not more, importance than the motor. As one writer puts it: If the engine goes wrong it does not cause any risk of accident to the driver, but if the bicycle breaks down when travelling at a big pace, damage is very likely to result. The increased weight of the machine, the heavy weight of the motor, the increased speed and the shocks caused by the impulse of the engine, all set up immense strain, and require the very best machinery and workmanship to stand them.

About Hand Work.

The building up of a wire spoke wheel has from time to time called forth numerous machines designed to do away with the time required for hand work. Usually these machines have had wonderful claims made for them that failed in the performance. The general theory worked on was that the hub should be placed in a rigid position at the center of the machine and the rim clamped in an equally fixed manner. If the spokes, which had previously been put in with a turn or two on the nipples by a small boy, shelves and windows orderly and attractive;

were then all drawn up to a uniform tension, as determined by the spoke end position in relation to the outer end of the nipple, the wheel ought to come out of the machine true, according to the claimants. That they needed a final touching up by hand is well known, not one in a thousand coming out according to theory.

The conditions that would have to exist to do away with hand work and supplant it with mechanical means would be many and in general as follows: The holes in the hub would have to be perfect in equality of size, distance from each other and from the axial center. The spokes would have to be exactly alike in distance from inside of bend at head to the last thread. The holes in the rim would have to be not only perfectly spaced and staggered from the center line, but would needs be at the same angle, a thing that is not as much as it is thought to be, in spite of automatic drilling machines. All nipples exactly alike in the length of thread from the end of the clearance to the top. The clearance varying one-half a thread would upset all other perfection. And after all these had been attended to, the putting on of the washers would probably destroy all previous care, as they would find different densities around the rim, and would not all sink into the wood equally, even though they did not have to contend with varying heights of seats due to faults in drilling. Until these points can be overcome there can be no machine built that can entirely displace hand work.

The formation of the State organization on the lines of the 'Frisco Board of Trade means more than appears on the surface. The San Franciscans have long worked under a rule which in effect requires its members to refrain from purchasing goods from anyone who sells to dealers and jobbers outside the organization. They have been singularly successful in the enforcement of the rule, and its implied application to the entire State is therefore fraught with no small importance.

The silly yarn, designed to illustrate the cycling depression in this country, that American bicycles may now be left out of doors without fear of being stolen because they lack attractiveness and value even for thieves is now going the rounds of the British press. It suggests that some one might start the yarn, equally as silly, that the fact serves to illustrate as well the "superior honesty" of American thieves.

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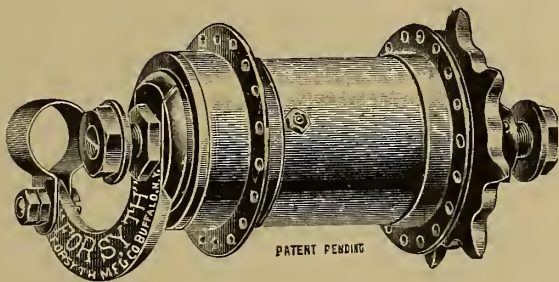
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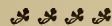
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WHAT WYDTS WROUGHT

Wonderful Sparking Plug That May Render Electric Ignition Unnecessary.

Ignition without flame and without electricity for sparking, or with so little of the latter that it is a negligible quantity—such is the alluring promise held forth by a device which comes from France.

It is the invention of a Monsieur Wydts, and is nothing more or less than a sparking plug entirely new in principle and possessed of wonderful qualities. It has been carefully examined and tested by the editor of *La Locomotion*, and is by him commended in the highest terms. It is thus described by that journal:

"It is well known that certain precious metals have the extremely singular property of bringing about merely by their presence the sudden combustion of two or more gases in which they are placed.

"The metals which produce, to use the expression of the physicists, this catalytic effect, are platinum and those that are mined with it, such as osmium, iridium, rhodium and ruthenium, which are found in the nuggets or grains contained in the auriferous earths from which platinum is extracted.

"Theoretically, therefore, it is only necessary, in order to automatically spark a motor, to mount on the piston a piece of spongy platinum. Several attempts have been made to do this, but they have all proved abortive; and thus it is demonstrated once again that, if theory and practice are sisters, they spend the greater part of their lives quarrelling. The fact is that platinum, even in the spongy state, has not sufficient catalytic power, when cold, to explode a mixture, and motors that are provided with this metal for ignition purposes must have it heated by a burner when starting. Afterward, when the internal temperature of the cylinder has become sufficient, the burner is extinguished and the spongy platinum alone effects the explosions.

"Spongy platinum produces the same result as a heated point in a motor run without cooling water; it causes explosions at the wrong time and haphazard. Moreover, spongy platinum can only be obtained by causing meerschaum (an extremely fragile substance) to absorb a platinic chloride, which is then reduced to the metallic state. It has no resistance and will only last throughout a laboratory experiment, the length of a morning.

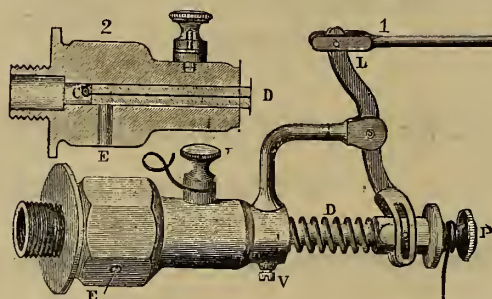
"In order to evolve from these curious experiments a really practical spark plug, capable of traversing the highways on an explosive motor, numerous minor discoveries remained to be made. An experimenter of ability was needed to undertake them, and such a one was found in Mons. Wydts, who not only had the ability but also the inventive genius to bring them to a successful and practical termination.

"It was necessary, in order to make a suc-

cessful igniter on this principle, to find a solid, homogeneous, indestructible, unoxidizable substance capable of a sufficient catalytic effect, even at low temperatures, to inflame any carbides of hydrogen whatever mixed with a small proportion of oxygen and a large proportion of nitrogen and other gases.

"After long research, Mons. Wydts discovered an alloy, made in determined proportions of osmiridium and ruthenium, an alloy which forms a metal of an extreme porosity, although always dense, and which possesses in the highest degree the power of condensing with elevation of temperature any carbides of hydrogen whatsoever mixed in any quantity whatsoever with nitrogen, oxygen, carbonic acid, etc. The presence of an infinitesimal quantity of oxygen causes its immediate incandescence.

"At the same time the inventor discovered that the passage of an electric current through this mysterious alloy produced a sort of molecular bombardment, the effect of which was to drive out the inert gas con-



densed in the pores of the metal, to purge it in some manner, and by so doing to increase its catalytic power. A feeble current (one-half an ampere at one volt, or one-half a watt) is sufficient, and its application is necessary for a few seconds only.

"After making some experimental plugs, Mons. Wydts has now devised a standard type suitable for any gasoline engine. This consists of an outer shell or casing that screws into the regular spark-plug hole in the motor. Within this shell there is a metal piston, D, which can be moved in or out by means of the lever L. An insulated wire passes through the piston, terminating in the bit of metal alloy, C, on the inner end and having a binding post on the outer end.

"The bit of alloy is mounted on the end of the piston, and as this fits tightly in the outer shell the current can enter through the upper binding post of the latter, pass through the shell and piston to the alloy, and, after traversing this, make its exit through the insulated wire and the binding post P. A single cell of dry battery is all that is needed, as it is only necessary to produce a sort of excitation in the bit of alloy at the start, and as soon as the motor is under way the current can be cut off. The electrical apparatus used is certainly of extreme simplicity.

"As soon as the motor is well started the point of ignition becomes somewhat advanced, for the incandescence of the bit of alloy increases gradually till its maximum is reached. It then has a temperature of 1700

deg. C. (3092 deg. F.), a temperature superior by 750 deg. C. (1382 deg. F.) to that obtained by the best burners.

"It is noteworthy that this temperature is lower than that of the electric spark, which is generally conceded to be in the neighborhood of 3000 deg. C. (5432 deg. F.). But in a unit of time the number of calories disengaged by the osmium (and this is the important point in the discussion) is much greater than the number disengaged by a spark. A piece of wool saturated with gasoline, and approached in a closed jar toward the osmium and toward the spark, takes fire three centimeters away from the former, and only ignites when within one-half a centimeter of the latter.

"The inflaming alloy, therefore, forms in the Wydts plug an incandescent centre comparable to that which the burner forms in a platinum tube. But the great difference consists in this, that in the system just described this incandescent centre, C, can be moved, while, when produced by a burner, it is fixed. The result is that while in order to produce advance ignition in a motor with burners, it is necessary to use a platinum tube longer than the one ordinarily employed, and thus render necessary in this tube a lower compression—that is to say, a compression more quickly obtained by the piston, inversely it is necessary with the Wydts igniter to shorten the length of the chamber by advancing the incandescent point toward the cylinder.

"The useful ignition advance for a given motor can be calculated by the constructor, who can set the piston in the plug and fasten it by the screw V, or it may be obtained by hand by moving the piston when the motor is in operation. The sudden stopping of ignition can be accomplished by withdrawing the incandescent mass past the hole E. The introduction of the oxygen of the atmosphere affects the incandescent piece of alloy, in that it suddenly lowers the temperature to a point sufficiently to interrupt ignition, while at the same time it spoils the explosive mixture in the cylinder. The motor consequently stops at once.

"To start it again, all that is necessary is to push in the piston sufficiently to close the hole E, connect the battery in circuit, and give a turn of the crank. Twenty seconds after, the current is cut out and the motor runs as before. If the motor had been stopped in some other manner, and the igniter piston left as far in as possible, the operator need have no fear of its kicking back when he attempts to start it, for the incandescence of the osmium would then be at its minimum, and the explosion would occur at a point sufficiently behind that where it occurs when the alloy has reached its maximum incandescence to make a back kick impossible.

"Finally, after having taken the Wydts plug out of the motor and smeared it with oil and soot by means of a brush, I saw the motor start at the first turn after the plug had been reinserted. Five minutes later, upon taking out the plug again, I found the osmium alloy bright and showing no trace of the foreign substances."

LOSS OF POWER

Leakages in Combustion Head of Motor and how They may be Remedied.

As at present made, all small air cooled motors have the cylinder and air cooled motors have the cylinder and head cast in two parts, which are held together with bolts usually passing to the crank case. So long as this continues to be the practice it will be necessary to take some means to make the meeting of the cylinder and combustion chamber positively tight.

There are makers as well as a few writers on the subject of gas motors who claim that if the joints are properly turned and then scraped to fit each other, that a tight joint can be made by smearing with vegetable oil. As a mere statement of what is possible, this is true, but it would mean a very material addition to the cost of production, and so long as small motors continue to be made with separable heads, it will be found better in shop practice to turn the places of meeting with properly designed tools and then use some sort of packing. In many motors sheet asbestos is used to make packing rings. When asbestos rings are used they should be soaked in water before being put into place, when it will be found they will make a better joint.

A much better packing is made from soft copper turned over to form a U-shaped ring, with a liner of asbestos placed between the lips. This of course means one of two things. Either the cylinder will have to be made of a size to take a stock copper gasket, which are not easily procurable in small sizes and thin enough, or else special tools will have to be made which will add very materially to the cost, unless large quantities are made. If asbestos lined copper gaskets appeal to the maker of motors and the cost of cutting and turning dies are too large a factor, they can be made by a clever workman by turning them off a properly sized tubular shell that can be cast to get the correct diameter and thickness of wall. As a substitute which will be found to give excellent results, a couple of rings can be used made of copper wire of about 20-gauge, one ring enough larger than the other to encircle the latter. In using these wire rings they should be thoroughly smeared with linseed oil. In fact, it would be well to smear the joint, even when the asbestos lined copper gaskets are used. If for any cause none of the above mentioned gaskets can be used, then insert a ring of brown paper smeared with linseed oil preferably, but any other vegetable oil can be used. Avoid mineral and animal oil, if possible.

In assembling the head and cylinder, great care should be exercised. With the better designed motors a ring groove is cut in the head, in which rest the gasket and the top edge of the cylinder. As this groove should

be just a fit for the cylinder edge, that is, the slightest fraction wider than the thickness of the cylinder wall, care should be taken that the gasket does not bulge at its sides, so that it and the cylinder edge cannot bottom properly. This is not only possible with new gaskets, but may happen with old gaskets if they have been carelessly removed. Care should also be taken in removing old gaskets that they are not badly buckled or crimped in the operation, as it is almost impossible to properly straighten them. Whatever method is used to straighten them, they should not be hammered, as this will widen them, and they will not seat properly thereafter, even though an attempt may be made to trim them.

In tightening the joint between the head and the cylinder, one bolt should not be operated upon too much in advance of the other, particularly near the end of the operation. As soon as the strain commences on



NEW YORK BRANCH: 214-216 WEST 47TH STREET

the bolts, turn each nut but a fraction at a time and go back and forth from one nut to the other until a perfect joint has been made. Before passing on the job as complete, note particularly that the head sets square across, that the exhaust poppet stem is in line with the stem of the exhaust shoe and that the space between these two stems is of the correct measurement.

Should the motor have previously been without a gasket and one is put in, the correct distance between the stems can be made by adding a cap to the end of either stem or by turning off enough of the end of the cylinder. If the cylinder is tackled for this purpose, note if the bore has not been relieved a little and follow the construction carried out by the maker.

A possible point for loss of compression was not mentioned in the opening paragraph last week, and that is the compression cock. This may leak at two places, either one of which is apt to be neglected by the user. Because they can be bought in the open market, if for no better reason, these cocks are of brass. The difference in expansion that

takes place between the brass of the cock and the iron of the motor, in the rapid heating and cooling that takes place in small motors, will in time affect the threaded connection of the two, allowing an escape. The more frequent trouble at this point, however, is loss of compression around the stem of the cock. This should be kept well ground in and quite tight. In grinding the cock never use emery; it is too harsh. Use rotten stone in preference.

How Opportunities are Overlooked.

The importance of obtaining and digesting all of the catalogues and printed matter issued by the cycle trade is, as the *Bicycling World* has several times pointed out, a fact too little appreciated by dealers. A little incident that shows the value of the information conveyed by such printed matter occurred but a few days since.

Spring seat posts were under discussion at the time, when one of the party, a retailer, remarked that while he had sold a fair number of them, his total sales were not as large as he had expected would be the case, although he admitted that beyond placing one of them in the show case, he had made no particular effort."

"Why, it seems to me that if I were in business," rejoined a well informed rider who used one of the posts, "I would want nothing better than to sell Berkey spring posts. The Berkey offer simply takes the wind out of the mail order houses' 'ten days' free trial' scheme."

"In what way? I have seen nothing of such an offer; and the Berkey post is the one I sell, too," responded the dealer with a show of confidence.

"You've seen their circulars, haven't you?"

"Yes; there are plenty of them in our store."

"Well, the offer is printed in those circulars in black and white. They not only offer to send posts prepaid on thirty days' trial, but to pay return charges if purchasers are not satisfied."

"That's a new one on me. If I can't sell seat posts on those terms I guess I'll quit."

And the man's face fairly lighted up as he said it.

In fairness to the Berkey people it should be stated that this is in no sense a Berkey "puff." It is an incident that actually happened within the hearing of a *Bicycling World* representative.

Acme Reductions.

The prices of Acme bicycles, made by the Acme Cycle Co., Elkhart, Ind., range from \$40 to \$30 and not from \$50 to \$35, as was previously stated. The reductions apply on this year's models, and should help make the goods move. The price of the Acme juveniles also were pared a few dollars, and now range from \$18 to \$15.

Plans are being drawn for a two-story addition to the Motor Cycle Manufacturing Co.'s factory at Brockton, Mass. It will more than double the facilities of the plant.

Corbin's New Departure.

That the coming season is to be par excellence one of coaster brakes no one who has watched the trend of events can possibly doubt. Not that last season was anything like a small one in this line, but even with its large sales it is destined to be cast in the shade compared with the year now before the trade.

Progressive dealers pushed this most comfortable equipment, and the results have borne fruit, as every convert made has been a missionary to spread the propaganda of one of the most comfortable devices ever applied to a bicycle. No one could ride a coaster brake except to preach its good points to those who had held back from one cause or another.

A decided factor in the coaster brake market are P. & F. Corbin, of New Britain, Conn., whose immense factory and equipment have been for so long identified with the production of New Departure coaster brakes. The well known facilities of this concern has kept pace with the movement, and those who have been admitted to its confidence have known that the hub for 1902 was to have features of decided merit. These are in evidence throughout the construction, with the notable feature that when the pressure is applied the brake will not set from an expanding spring, but is entirely controlled by the amount of pressure applied to the pedals.

This year's hub is known as Corbin's Duplex 1902 Model New Departure coaster brake, and is illustrated and described herewith:

When the rider pedals forward, the sprocket revolves, carrying with it the driver (5) to which it is attached. The clutch (29) travels along the driver (5) upon the threads shown in the illustration, and when the driver is rotated forward by pedaling, the clutch (29) is drawn into frictional contact with the hub shell, thus driving the hub forward through power applied to the pedals.

When coasting, the pedals are stopped, and through the chain, the sprocket, the driver and the clutch sleeve (29) are held against rotation, the hub continuing to revolve through the momentum of the wheel. The relative action of the parts move the clutch sleeve to the left, out of contact with hub shell and into engagement with the teeth on the brake clutch (28).

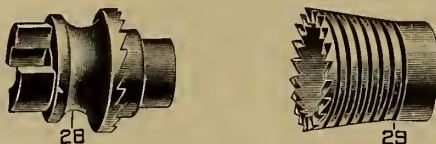
The wheel will now coast freely while the feet remain stationary on the pedals.

In applying the brake the rider presses slightly upon the rearmost pedal, and the clutch sleeve (29) engages with the teeth of the brake clutch (28), which presses against the levers (23) in the brake cap, thus opening the brake shoes (22), in opposite directions and in a parallel movement into frictional contact with the interior surface of the brake drum, which is an extension and a part of the hub shell. This retards the speed or stops the wheel, according to the amount of pressure applied at the pedals.

When pressure is removed the plate

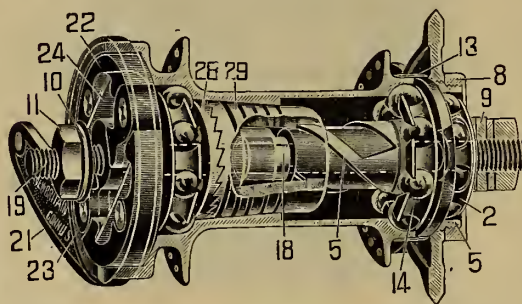
springs (24) automatically bring the shoes (22) back into position. The shoes are a little less than half a circle in length and rest at their centers on pins. The ends of the shoes are lipped, giving a large surface for the levers to work against, at the same time acting as pockets for the ends of the plate springs. These springs are deflected against the pins at the centers of the shoes.

That the simplicity and positive action of the driving clutch (29) and the brake clutch (28) may be fully understood, they are here shown as detached from operative position.



It will be noted that the meeting edges of the two are cut with interlocking saw teeth. The outer end of the brake clutch has two fan-shaped lugs, between which passes the wheel axle. In the two pockets formed by the lugs are the free ends of the levers which are pivoted at their outer ends between the lips of the shoes.

In addition to the regular model made for pedal driven bicycles, P. & F. Corbin make



a motorcycle model known as No. 5A. The construction is the same as the regular, with the exception that it has wider brake shoes, giving ample braking power for this class of machines.

Going West?

If you purchase your tickets via the Nickel Plate Road, the shortest route between Buffalo and Chicago, you will secure the best service at the lowest rates. Three fast thru express trains daily, in each direction, between Buffalo, Erie, Cleveland, Ft. Wayne and Chicago, making close connections at the latter city with the fast trains of the Western roads. The trains on the Nickel Plate Road consist of elegant vestibuled day coaches, sleeping cars of the latest models, and Nickel Plate dining cars serving famous individual club meals at rates from 35 cents to \$1. Thru sleeping cars are also run from Boston, New York, Albany, Syracuse, Rochester, Scranton, Binghamton and Elmira, and many other Eastern cities.

If your ticket agent cannot give you the information desired, address F. J. Moore, General Agent, Nickel Plate Road, 201 Main St., Buffalo, N. Y.

The Retail Record.

Helena, Ark.—J. O'Connor, fire loss; insured.

Aurora, Ill.—Frank Anderson; fire; loss slight.

St. Paul, Minn.—Frank M. Smith, deceased.

Colfax, Iowa.—Cox & Snyder, bought out E. J. Miles.

Gloucester, Mass.—Charles J. Gray, in bankruptcy.

Canton, Me.—F. J. Laffaty & Co. succeeds W. R. Trusty.

Caribou, Me.—Fred J. Lafferty bought out William Trusty.

Harrisburg, Pa.—Keller & Mumma, voluntary bankruptcy.

Holyoke, Mass.—Ross Cycle Co.; damage by water from fire.

Elizabethtown, N. Y.—George Fisher, building addition to store.

Erie, Pa.—Palace Bicycle Co., succeeds Chambers & Suerken.

Waterloo, N. Y.—Howard F. Burbridge, succeeds John Haight.

Terre Haute, Ind.—A. Chaney & Brother moved to Swope Block.

Oshkosh, Wis.—Jesse Chase and Paul McIntyre, formed partnership.

Ithaca, N. Y.—Truman, King & Co. purchased stock of Nathan Hanford.

Utica, N. Y.—W. J. Smith, opened repair shop at Second and Elizabeth streets.

Springfield, Ill.—Overtake, Morton & Hoblit succeeds Overtake, Curry & Hoblit.

Washington, D. C.—J. C. Wood succeeds W. T. Robertson & Co., No. 429 Tenth street, N. W.

Waltham, Mass.—Ralph Worcester succeeds John Grossman and moved to No. 587 Main street.

Westport, N. Y.—G. W. Spencer, removed to Round Lake, N. Y., where he will continue business.

Springfield, Mass.—National Automobile Supply Co., No. 100 Worthington street, will handle bicycles, also.

South Nordalk, Conn.—Fox Cycle & Hardware Co., partnership of Edgar H. Fox withdrawn; Everett S. Bulkley continues under same style.

How Steel Ball Sells.

It is difficult to call up a more comprehensive guarantee than that under which the Steel Ball Co., Chicago, sells its goods, to wit: That every ball is a perfect sphere; that every ball is within 1-100,000 of an inch of exact size; that the balls are made of the best quality crucible tool steel; that balls bought from us at one time will be exactly like balls of a similar size bought from us at any other time.

Too Warm for Belief.

For winter riding the motor in front type has one advantage. The rider can warm his hands with the heat the motor gives out. Not only this, but he gets a little warmth from this heat as it passes his body

RACING

McEachern defeated Monroe in the final of the four-cornered motor bicycle paced race at the Second Regiment Armory track January 21. The distance, ten miles, was ridden in fast time, McEachern finishing two laps to the good in 16.27. In the first event of the evening a five-mile motor bicycle paced race between Monroe and Leander, the former won handily. Monroe passed Leander in the ninth lap of the third mile and kept in the lead during the remainder of the race; time, 8.29 1-5. The second race McEachern won from Gougoltz in easy style, finishing in the lead by almost three laps, in 8.41. Gougoltz seemed unable to follow the pace set by the champion..

The third race was between the respective losers of the first and second races, Leander and Gougoltz, and was at a distance of ten miles. Leander lapped Gougoltz in the second and seventh miles and twice in the last mile. Gougoltz, as in the previous race, seemed unable to hold the pace. The time was 18.12 1-5.

At the Second Regiment armory track, Philadelphia, January 23, Monroe won first money in the four cornered motor bicycle paced races. In the first event Monroe defeated Maya by half a lap in a five mile race, in the time of 8.01. In the next race of five miles, Freeman won from Rutz by a lap in 8.20 1-5. These were the two trials. In the finals Rutz and Maya met to decide third and fourth moneys, while Monroe had Freeman for an opponent to decide first and second moneys. In the race between Maya and Rutz, Maya got the start, but Rutz sprinted and drew up in the lead at the second mile, but on the second lap Rutz lost his pace and Maya rode around him. From then on Maya held the race safe. Maya won as he pleased by three laps, riding the ten miles in 17.22. The final heat of ten miles for first and second money between Monroe and Freeman was won by the former in 16.38 2-5. He rode around Freeman in the fifth lap of the sixth mile and finished one and one-quarter laps to the good. Michael rode an exhibition mile behind pace in 1.32 1-5.

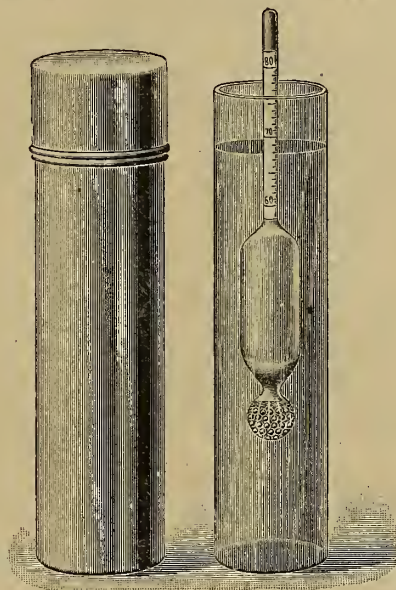
Michael fairly ran away from Gougoltz in the first of a series of five mile races at the armory track, Philadelphia, January 25. Michael won the first heat of his race with Gougoltz by two and one-quarter laps in 8.23 4-5. He finished the second heat five laps ahead of Gougoltz in 8.16 4-5. McEachern won from Freeman in two straight heats, covering the first five miles in 8.01 3/4, two and one-half laps ahead of Freeman. In the second heat both riders showed remarkable speed and rode abreast almost the entire distance. McEachern finished one-half of a lap ahead of Freeman in 7.52 2-5, breaking the indoor record of 8.01 1-5 made recently on the same track by Monroe.

The three-cornered fifteen mile motor paced race at Philadelphia, January 27, between McEachern, Monroe and Maya proved a disappointment. The first accident occurred in the third mile, when the gasoline tank on Monroe's pacing machine sprang a leak, and the fluid flying into his eyes disconcerted him and he quit. In the eleventh mile the front tire on Maya's wheel came off, and the rider went down with a thud. He was severely bruised. McEachern, who had a safe lead at the time, went on and crossed the line in 24.41 4-5.

Dan Canary has returned to trick riding after an absence of many years. He has

Of Value to Motocyclists.

With a view to the convenience of the automobile user the Taylor Brothers Co., of Rochester, N. Y., have got out a gasoline



testing apparatus, which fully accomplishes this purpose.

The device consists of a hydrometer on the Baume scale, 60 to 80 degrees. This is inclosed in a flannel bag, thus preserving the fragile instrument from breakage. This is then placed in a glass test jar, used to hold the gasoline to be tested. The whole is then carried in a round, nickel plated carrying case, 4 1/2 inches long and 1 inch in diameter.

"doubled up" with Kilpatrick, the one-legged wonder, and they begin their "turn" this week in conjunction with Dockstader's Minstrels. Among other things, they employ a "cycle whirl," or one hundred and odd lap track, which is styled "Kilpatrick's Cycle Dazzle." Two women trick riders assist in the performance.

The oft projected track at Coney Island is in a fair way of becoming a reality during the current year. Tom Eck has the matter in charge, and has progressed so far as to pay out \$50 for membership to the N. C. A.

The annual meeting of the N. C. A. will be held next Tuesday, February 4, in this city, of course.

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terms is needed to
understand it.

PUBLISHED EVERY THURSDAY
AT 123-125 TRIBUNE BUILDING,
NEW YORK CITY.

\$2.00 PER YEAR.
10 CENTS PER COPY.

SAMPLE COPY ON APPLICATION.

Orients ; Their Rejuvenation.

What may be fairly termed one of the trade surprises of the year has been furnished by the Waltham Manufacturing Co., of Waltham, Mass., with their line of Orient bicycles.

"Rejuvenated," perhaps, expresses as well as anything their position to-day. While the Orient bicycle has always been recognized as one of the very finest machines in the world, its sales have been handicapped in various ways during the last few years. With the advent as manager a few months ago of L. B. Gaylor, the man who made the Tribune famous, it was felt that if anyone could put the Orient bicycle where it belonged—in the front rank—he was the man to do it.

That Mr. Gaylor is rapidly succeeding in

features such as the triple truss fork, crown, Orient sprockets, two-piece cranks and other parts have been retained, but rejoined wherever possible. The line, complete, consists of eight models, ranging in price from \$75 to \$30, headed by the racer (Model 78). This is a superb machine, on which nothing has been spared, and is sure to more than maintain the splendid speed record of the Orient on track and road.

The specifications of this model in brief are 19 and 21 inch frames, wheels 26 front, 28 rear; 6½ or 7 inch cranks (the long crank feature); Harvard 80, 1¼ inch tires; weight, about twenty pounds. The price is \$50.

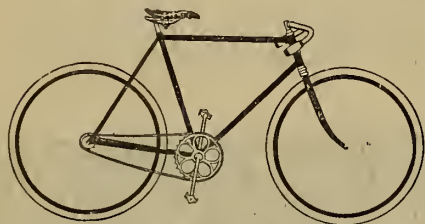
The Orient Leader (Model 77) is a high class road machine designed for speedy, clean cut road work and built for business. Frame, 21 inch, with an option of 23 inch;

been one of the few really good tandems on the market, and has won its spurs long ago. The chief change is in the price, which is now \$75, a fact the agent will not be slow to appreciate.

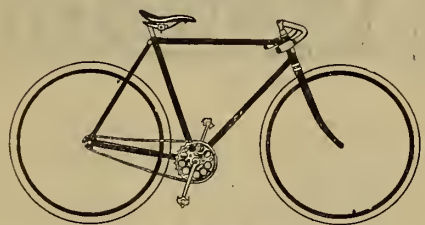
Orient Chainless (Model 71)—This is of the bevel geared type, well gotten up and lists at \$65.

Fisk Free From Gloom.

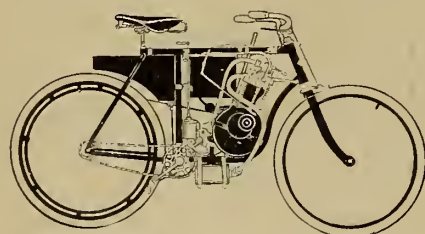
All of the travelers of the Fisk Rubber Co. are this week in conference at the factory in Chicopee Falls. A talk with any of them reflects the elation and satisfaction that pervades the Fisk institution. The Fisk tire had a good year last season, and everything indicates an even better one during 1902.



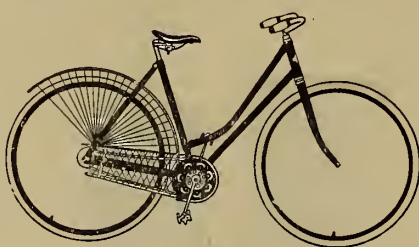
Model No. 74.



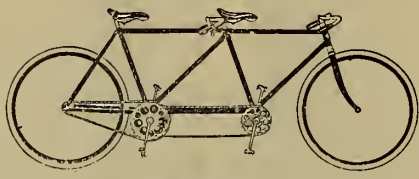
Model No. 76.



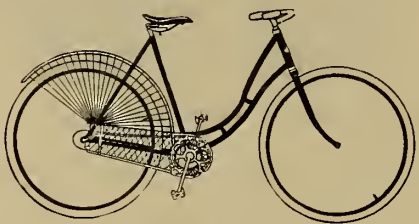
Motor Bicycle.



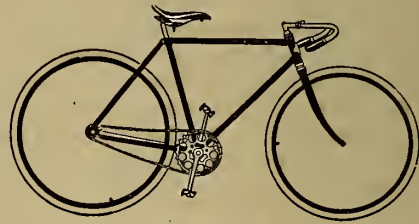
Model No. 75.



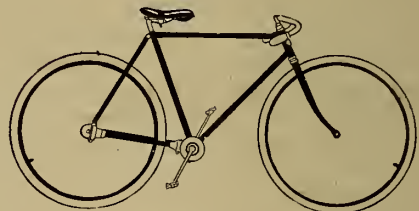
Model No. 72.



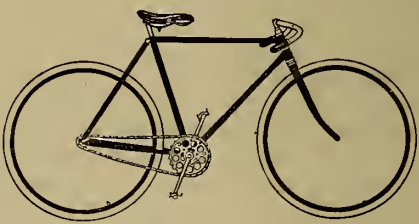
Model No. 73.



Model No. 78.



Model No. 71.



Model No. 77.

doing so, in fact has already succeeded, is assured.

His policy is a simple one, merely a return to first principles. With a firm faith in the future of the bicycle business, a finely constructed wheel and a superb factory to build it in, as a general groundwork, he promptly swept away the underbrush that had checked the Orient growth, filled out the line by the addition of a few desirable models, and outlined a policy that was bound to be attractive to high class agents.

Thus equipped, with no splurge or flourish of trumpets, he started out to get business. He got it, and is still getting it in a satisfactory volume.

So much for what the Waltham Manufacturing Co. are doing.

As for the wheels themselves, the changes in the regular models are principally matters of detail in construction, which do not materially affect the appearance of the machines. All the prominent distinctly Orient

long cranks, racing pedals, Hartford 801¼ inch tires, semi racing equipment. Weight, about 21½ pounds. Price, \$50.

Orient Light Roadster (Model 76)—This is the regular full roadster, but weighs only about 22 pounds and has fine equipment. Lists at \$40.

Orient Ladies' Light Roadster (Model 75)—This machine is a worthy companion to Model 76, of graceful design and lists at the same price.

Models 74 and the 73 (ladies') are new throughout, and have been added this year to supply Orient agents with a good wheel at a lower price. By light weight, attractive design and good equipment (a feature, by the way, of the entire Orient line) they are already proving splendid sellers. The price is \$30.

Orient Tandem (Model 72)—But few changes are observable on the tandem, in fact, it is hard to see where any could be made to improve it. The Orient has always

London Hears a Russian Rumor.

London hears that there is a persistent rumor in St. Petersburg commercial circles that great reductions are shortly to be made in the tariffs on certain manufactured goods imported from England to Russia, including cycles and parts, the rumor going so far as to say that "even the admission of these duty free is contemplated." British manufacturers are accordingly urged to keep their ears to the ground and make ready for the demand that is expected to ensue. The urging is, however, accompanied by a caution to go slow in the matter of credits unless the Russian accounts are guaranteed by responsible persons in Moscow and St. Petersburg.

"The Motor: What It Is and How It Works." See "Motocycles and How to Manage Them." \$1. The Goodman Co., Box 649, New York.

TALKED OF FRAMES

Engineers' Institute Discusses the Subject but Develops Little That is new.

A feature of English bicycle manufacturing that could be emulated in this country to the great good of the industry is an organization known as the Cycle Engineers' Institute. The Institute holds stated meetings, and at these meetings papers are read on cycle construction, a general discussion of the paper following. The spirit of rivalry thus engendered works all through the trade, and the keenness of competition keeps the blood stirred to deeds as well as words. When the Institute was first organized its papers were given to the press, but after a time they were withdrawn. The exclusion ruling has been rescinded, and the papers are again to be furnished to the press.

At the January meeting a paper on Cycle Frames was read, a summary of which is here given.

In opening, the author called attention to the fact that in every other branch of engineering there are well recognized and followed tables and data, but that in bicycle making there was nothing of the kind, and that the variety of ideas was most striking. He attributed this to evidence that there is something about building bicycles that dif-

fers from any other branch of engineering, a point made particularly notable by the failure of engineers prominent in other lines to design frames that were even tolerated.

Speaking of spring frames and rigid frames, the author called attention to the many attempts made in England to build acceptable spring frame bicycles and the probably causes for failure in a few cases, his purpose in this being to show that "two distinct principles of cycle frame construction are in vogue—each diametrically opposed to the other, and yet both correct."

From tests made with a "theoretically" perfect design, in comparison with accepted designs, the author concluded that to obtain best results a bicycle frame should be made in such a manner that it will resist certain strains rigidly, whilst it will resist other strains flexibly. Arguing from this he believed it was scarcely possible to make a bicycle too rigid sideways. That is, that if the rear fork ends and the head tube were held rigidly, the crank hanger should not be allowed to sway. To accomplish this, two tubes were recommended, running from the lower head, in line up and down, to the extremities of the hanger. This is a system used in all branches of engineering, but by only one English cycle maker.

The cross frame came in for a great deal of attention, owing to the many ideas of the English makers as shown in their product, but this very variety left the matter in doubt,

in the mind of the author, as to the best means to employ. That is, whether the cross tube should run from the upper head to the hanger or from the upper head to the rear wheel axle. Seemingly he favored the latter, with a single large diameter tube from the head to the seat post tube and then branching, in preference to two smaller tubes triangulated for their entire length.

In the discussion which followed the point was raised as to the corrosion of tubes. A remedy was suggested in heating the frame and applying the enamel hot. It is stated in the reports that come of the meeting that one of the members revived the old time argument that the stay opposite the chain side was "idle." It will probably be remembered that ten years ago there were makers in this country who thought the same much to their sorrow.

Fine Italian Tariff Distinctions.

The Italian customs authorities have decided that tool bags of leather with accessories on cycles will be taxed separately in future. They were hitherto not specially mentioned in the tariff, and fell, according to the official list, under the heading "bones of all kinds," which are taxed as the material of which they consist. The new ruling places the tool bags as not specially mentioned goods of tanned leather without hair, for which 50 lire per hundredweight have to be paid as taxes. This increases the former tax threefold, and places bags on cycles under a separate tax, where formerly the cycle was taken as a whole.

CINCH EVIDENCE.

Riggs-Spencer Company, Rochester, New York.

Colorado Springs, Colo., Jan. 16, 1902,

Gentlemen:

Since August 1st I have resided in this city and if ever a Cinch Brake was given good trial it has been on our double diamond tandem since we came here. Mrs. Burns and I have travelled several hundred miles and have made some of the most dangerous descents in this country. There are no less than a dozen splendid coasting rides out of this city, all of which we have taken:

Our latest was to take the train up the Ute Pass to Green Mountain Falls, a distance of 15 miles, for the pleasure of coasting down. It is a drop of 3000 feet and some of it rather steep. We made the 12 mile descent to Manitou City in 40 minutes and could have beat the time had we not had to give up the road to several vehicles on the way down, as you know there is no passing room on these mountain pass roads. We were at home in 55 minutes from the time of leaving Green Mountain Falls. We have tried the Cinch on nearly every coast in this section and it has never yet failed to work even under the highest speed. Furthermore, it has not been out of order, while the _____ put on my single wheel at the same time has been to the shop three times. The fibre in the braking mechanism of it burns right out.

Mrs. Burns and I both agree that our tandem without the Cinch would give us far less pleasure as there are many mountain rides here that would mean certain death without a safe brake.

Although this testimonial is sent to you unsolicited I feel sure that you will be pleased to know the result of nearly six months hard test in the mountains, a thing which few brakes will stand on a tandem.

Respectfully yours,

JOHN T. BURNS,

News Editor *The Evening Telegraph*.

**Discriminating Dealers
specify CINCH.**

**RIGGS-SPENCER COMPANY,
Manufacturers,
ROCHESTER, N. Y., U. S. A.**

Tourist Cars on the Nickel Plate Road.

Semi-weekly transcontinental tourist cars between the Atlantic and the Pacific coasts are operated by the Nickel Plate and its connections. Tourist cars referred to afford the same sleeping accommodations, with same class of mattress and other bedclothing, that are provided in the regular Pullman sleeping car service. These tourist cars leave Boston on Mondays and Wednesdays, and leave San Francisco on Tuesdays and Fri-

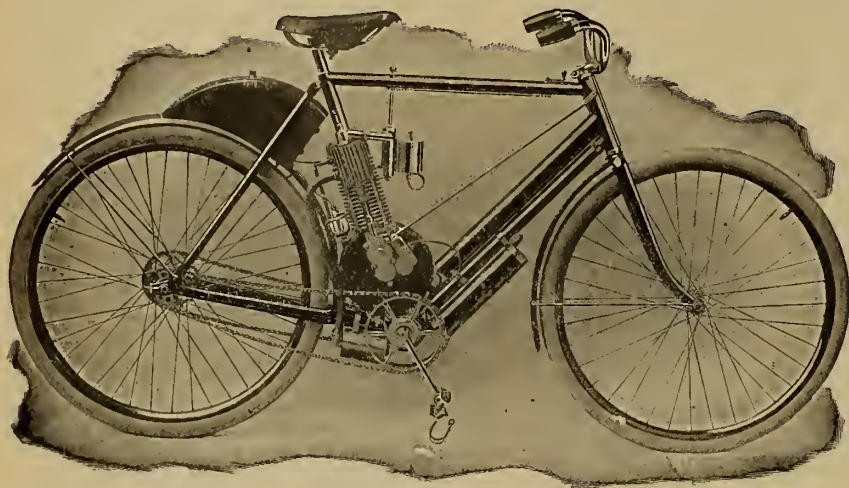
days. Berths in these tourist cars are sold at greatly reduced rates. Conveniences are offered without extra cost, for heating food, or preparing tea or coffee, affording every facility for comfort on a long journey, especially for families travelling with children. Lowest rates may be obtained always via the Nickel Plate Road for all points in the West. For special information regarding all trains on the Nickel Plate Road, including these tourist cars, consult your nearest

ticket agent, or write A. W. Ecclestone, D. D. Agt., 385 Broadway, New York City. ***

Pictured at the Roadside.

The G. & J. Tire Co., Indianapolis, have issued another lithographic hanger devoted, of course, to their well known tire. It depicts a roadside scene, a cycling gallant being engaged in making a repair of the lady's punctured pneumatic. It is full of color.

FROM \$200 TO \$25



IS A LONG LEAP, BUT THAN THE

INDIAN BICYCLES,

that run the scale, there were never better values offered the cycle-purchasing public. Whether it be the motor bicycle or the pedal-propelled bicycle, INDIANS are of a class: They are built to sell and to give satisfaction after they are sold; and they do it, too.

WHOSE AGENT ARE YOU ?

HENDEE MFG. COMPANY, - Springfield, Mass.

If you ride or sell,
or intend to ride or sell
motor bicycles,

"Motocycles and How to Manage Them"

is the very book you need.

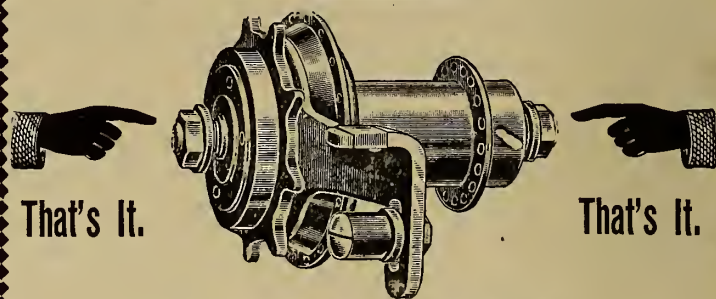
Every page teaches a lesson. Every illustration
"speaks a piece."

And there are 126 pages and 41 pictures, too!

Price, \$1.00.

The Goodman Co., 124 Tribune Bldg., New York.

THE COASTER BRAKE THAT Proved Worthy of the Highest Award AT THE PAN-AMERICAN EXPOSITION



That's It.

That's It.

THE UNIVERSAL.
OUGHT TO BE WORTHY
of the investigation of every thoughtful man
INTENT ON THE PURCHASE OF COASTER BRAKES.

PARTICULARS AND PRICES ON REQUEST.

UNIVERSAL COASTER BRAKE CO., Buffalo, New York.

C.B. BARKER & CO., Ltd.

93 Reade Street,
NEW YORK.

Our lines for 1902 are now complete and embrace all standard and saleable sundries and accessories.

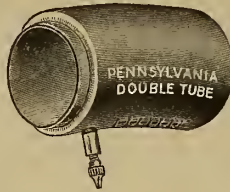
Catalogue is in press and should be in the hands of every LIVE agent.

SEND US YOUR NAME AND ADDRESS.

Metropolitan
Agents for **Crawford Bicycles**

Also Crawford Agents for New Jersey and
Eastern Pennsylvania.

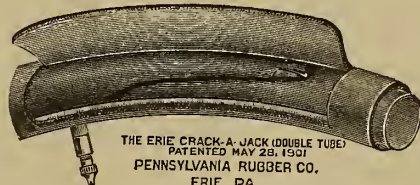
Jobbers, Be Wise!



Handle these
Goods and
MAKE MONEY.

STAY WITH THE GOLD MEDAL WINNERS.

Write for
our
1902
Price
List.



Don't close
until you
consider
our entire
line.

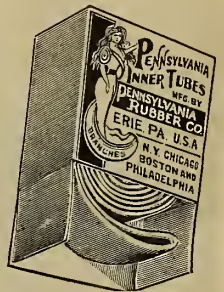
**PENNSYLVANIA
Rubber Company,**
ERIE, PA.

BRANCHES:

NEW YORK
BUFFALO

CHICAGO
PHILADELPHIA

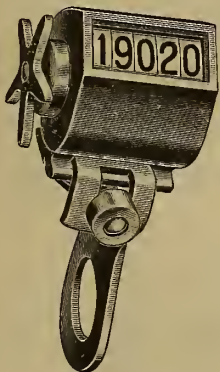
BOSTON



Veeder Cyclometers

STAND ALONE.

10,000 Miles
and Repeat.



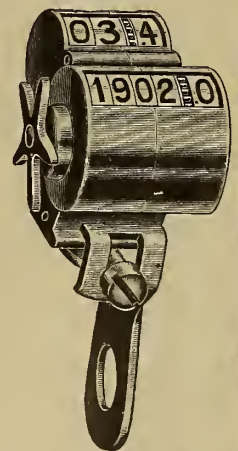
ACTUAL SIZE.

Competition has been silenced by sheer
... SUPERIORITY ...

Wheelmen no longer ask for a "CYCLOMETER."
They ask for a "VEEDER."
Those two words are synonymous.

Dealers can secure them from any jobber of consequence in the
United States. They are on sale in every
civilized country in the world.

10 000 Miles and Repeat
and Trip.



ACTUAL SIZE.

Makers of CYCLOMETERS,
ODOMETERS,
COUNTERS,
FINE CASTINGS.



THE VEEDER MFG. CO.,

CATALOGUE FREE.

HARTFORD, CONN.

The Week's Patents.

691,374. Bicycle Lock. Oswald H. Hansen, Milwaukee, Wis. Filed Sept. 23, 1901. Serial No. 76,156. (No model.)

Claim.—1. In a bicycle lock, the combination of a casing secured to the frame of a bicycle, a normally rotatable wheel in said casing and provided with projecting teeth of the sprocket chain of the bicycle, and means for locking said wheel so as to prevent rotation thereof.

691,541. Coaster Brake. Charles Glover, New Britain, Conn., assignor to P. & F. Corbin, a corporation of Connecticut. Filed June 11, 1901. Serial No. 64,097. (No model.)

Claim.—1. A brake mechanism for coaster brakes and the like, said mechanism comprising a plurality of non-yielding brake shoes and a brake actuating device and means between the ends of said shoes and said brake actuating device to impart to said shoes an outward movement, and means to couple said brake actuating device with the motive power thereof.

691,574. Elastic Tire. Joseph Baier and Emily Clark, London, England. Filed Aug. 22, 1901. Serial No. 72,859. (No model.)

Claim.—1. An elastic tire comprising a cover of flexible material, a number of arched metal springs arranged within said cover, transverse springs connecting the sides of said arched springs, connections between adjacent arched springs, and a circumferential wire to which said arched springs are connected, substantially as described.

691,597. Bicycle Attachment. Andrew P. Christiansen, Gardnerville, Nev. Filed Mar. 2, 1901. Serial No. 52,080. (No model.)

Claim.—1. An attachment for bicycles comprising jaws adapted to engage on opposite sides of the handle bar stem, coiled springs connected at their outer ends to the said jaws, stems upon which said springs are positioned, said stems having beaded outer ends and oppositely threaded inner ends, an adjusting nut receiving the threaded ends of the stems, and means for attaching the device to the frame of a bicycle, substantially as described.

691,611. Electric Battery. Albert De Dion and Georges Bouton, Puteaux, France. Filed Feb. 6, 1901. Serial No. 46,258. (No model.)

Claim.—1. In a storage battery, a positive electrode consisting of a metallic vessel adapted to contain an exciting fluid, a negative electrode consisting of a metallic strip embedded in a compressed block of oxid of copper, and a piece of copper gauze inclosing said compressed block, said block and gauze adapted to conform to the inner face of said vessel and fit snugly within the same.

691,691. Coaster Brake for Bicycles. Adolphus F. Wyman, New Bedford, Mass. Filed May 13, 1901. Serial No. 60,099. (No model.)

Claim.—A coaster brake for a bicycle, comprising a stationary shaft, having ball cones integral therewith; a cylinder or shell, surrounding said cones and adapted to revolve thereon by ball bearings; a sprocket, integral with or secured to said cylinder; a shell or hub, surrounding said cylinder, adapted to revolve on ball bearings between cones, one of which is integral with the sprocket, and the other secured to the stationary shaft; a spiral spring, surrounding said cylinder, having one end secured to the sprocket, a clutch, whose free movement is in a forward direction, secured to said shaft, and the opposite end of said spring, secured to said clutch, said spring being normally in frictional contact with the interior of said hub, and adapted to be wound to a smaller spiral, by the action of back pedalling, substantially as shown, and described.

When Good Clerks Count.

"Dull seasons come to all stores—seasons when more energy and push and good, hard work is required to make sales and keep up the business." Here is where the trained and permanent clerk shows his value.

"Then, another thing, a merchant can put his confidence in the doings of a good man, and sleep easy nights. He need not keep his eye continually on the conduct of such a clerk. He need not feel that the customer is being handled improperly. He may rest assured that the sale will be made if honest and capable salesmanship can make it at all.

"Every retailer," says an exchange, "wants to feel that if a customer slips away from his clerk he would slip away from any clerk, or himself."

Single Track Tricycle Coming!

From England comes word that a motor tricycle is soon to be put on that market, having the wheels in single file instead of on the plan of a triangle. The name of the machine is the Ulono track tricycle. The maker claims the following among other advantages. Vibration is lessened, side slip not noticeable, exceptionally easy steering and that the machine will stand unsupported. How this latter is accomplished is left entirely to the imagination.

"How to Drive a Motorcycle." See "Motorcycles and How to Manage Them." \$1. The Goodman Co., Box 649, New York. ***



R. R.
unlike other
Metal
Polishes
contains no
Acid or Emery.
THE ONLY RUST
REMOVER ON
THE MARKET.

IT SAVES LABOR.

The polished surface will not soon corrode, rust or tarnish.

R. R. is invaluable for cleaning old wheels. It does not injure nicked or polished surfaces.

SEND FOR CATALOG No. 10.

G. W. COLE COMPANY,

Makers of the famous

3 in One

145 Broadway, . . . New York.

ALL JOBBERS HANDLE THEM.

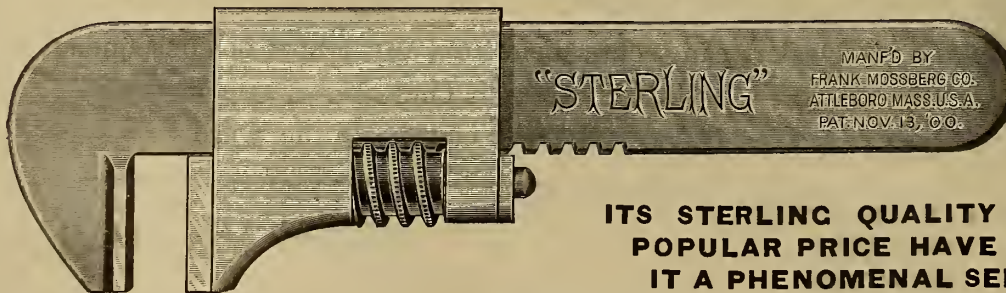
...The REAL THING in Bicycle Wrenches...

THE WRENCH THAT ACTUALLY DOES "LIVE UP" TO ITS NAME.



LEATHER WRENCH CASE.

Length,
5 inches,



Weight,
4 1/2 ounces.

(Will take 1 1/4-inch nut.)

Write for Catalog and Quotations.

ITS STERLING QUALITY and ITS
POPULAR PRICE HAVE MADE
IT A PHENOMENAL SELLER.

FRANK MOSSBERG CO., Attleboro, Mass.

WE CAN'T QUITE PERFORM THE ALADDIN TRICK

of exchanging new lamps for
old, but we do give you

**Two Lamps in One
and for the Price
of One.**



THE ADMIRAL

burns either

KEROSENE OR CARBIDE

WITH EQUAL FACILITY.

It is thus certain to satisfy all sorts of
people, which means any customer that
may come into your store.

WRITE FOR REVISED QUOTATIONS.

ADMIRAL LAMP CO., Marysville, Ohio.

OILERS.

"PERFECT"



25c.

"GEM"



"LEADER"



10c.

"STAR"



We make oilers for almost the entire trade. The
quality of our oilers is unequaled.

CUSHMAN & DENISON, Mfrs. 240-2 W. 23d St. N. Y.

Charges Heath With Jingoism.

Editor Bicycling World:

In your issue of January 23, Mr. Heath, of the Wisconsin Wheel Works, entirely dodges the point made by me in my letter of January 9. In this letter the position taken by the company that I represent is summed up in the last paragraph, which reads:

"In conclusion let me say that I shall at all times be more than anxious to have a bicycle dealer handle my goods, and he will not only have the first opportunity, but considerable patience and time cost will be devoted to what would be for our mutual advantage; but if he is the only dealer in his town, and positively will not wake up to his opportunities, I shall have to create a new agent in that town, just as he was perhaps created when he first tackled the bicycle. There were then more makers than the dealers in his town could take care of, and from a drug clerk, bank messenger, or perhaps a repairer in some already existing bicycle store, he was developed into one of the dealers on whom we are calling."

Neither in this or in that which precedes have I contended that a motor bicycle maker should scare up somebody in a town to quote in opposition to a recognized dealer. In fact, my opponent seems to have tried reading between the lines in an effort to get a line on me, and in so doing has lost sight of the real issue. Either this or he is guilty of jingoism, and has twisted the argument so that he could write the advertisement that appears in the same issue with this last letter of his. The advertisement states that: "We do not quote you a special agent's price and the next day quote the same or better to some customer in your town who wants one for his own use and on whom you may have worked for months." Neither would anyone with decent business morals. Mr. Heath has dodged me and is trying to rap another maker over the knuckles who is reported to be guilty.—(THAT OTHER SALES MANAGER.

The Forgetfulness of the Public.

"Some men think that by making a great stir for a little time they gain a permanent advantage," observes the Travelling Partner, and adds: "This is far from the truth. How quickly a thing is forgotten if it is not so continuously advertised! It is said the public have bad memories, but perhaps they try and crowd too much into them. One event usurps another in importance, and the panorama of daily incidents diverts the mind from ceaseless concentration on one particular thing. Day by day the happenings increase in number and importance, and the public mind is ever being conducted to a new channel of thought and consideration. The necessity for continuous advertising was never more pronounced than at the present time. A passing flash causes but a moment's reflection. Permanent drive-it-home advertising makes an impression that lasts."

IT IS EASY ENOUGH TO PASS

Counterfeit Money

on the "I didn't stop to think" type of man, or on the one who judges things merely by their looks; and it is pretty much the same with saddles.

Imitation may be the sincerest form of flattery, but all the world knows that the flatterer "was a gay deceiver ever." Accepting imitation as flattery, however,

the PERSONS SADDLE is



THE

Most Flattered Saddle

ON THE

American Market.

The truth of the assertion is too apparent to require pointing out.

To the men who think, it tells the whole story.

They know that the doubtful article, or the unsuccessful one, is never imitated—they know that to be worth imitating the article must be unusually and surpassingly good and in unusual demand.

It is so with Uncle Sam's greenbacks; it is so with Persons saddles.

But as is the case with the greenbacks, so it is with those saddles: the counterfeits invariably fall short of the originals—there is always *something* missing—something vital—something hard to define—something that *no* counterfeiter can quite equal or imitate, no matter how hard he may try to do so.

By the way, do you purchase saddles "on their looks" or "without stopping to think" of such truths as are here recorded?

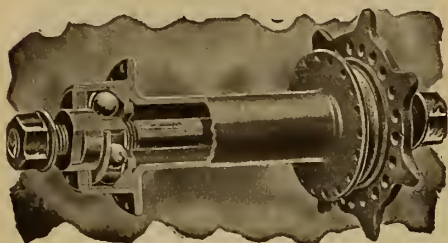
PERSONS MANUFACTURING CO.,

CHARLES A. PERSONS, PRESIDENT,

WORCESTER, MASS.

CHAMPION HUBS

Write for Complete Description and Prices.



LIGHT WEIGHT RACING MODEL.)

ALSO REGULAR ROAD HUBS.

Worthy of Their Name.

VULCAN HUBS.

Cheap but Good and Well Worth Their Price.

I. A. WESTON CO., Syracuse, N. Y.

Selling Agents, C. J. IVEN & CO., Rochester, N. Y.

HIGH GRADE

wheels must have the
best equipments.There is nothing that gives more value for
the money than the use of theMORSE TWIN
ROLLER CHAINNOISELESS IN MUD, WATER OR
DUST AND ALWAYS EASY RUNNING.The only chain having Frictionless
Rocker Joints. Insist on having the
Morse Twin Roller. Fits regular
sprockets.Send for Catalogue and
Trade Price to

Morse Chain Co., Trumansburg, N. Y.

WANTS AND FOR SALE.

15 cents per line of seven words. cash with order.

A MOTOR BICYCLE for \$2.50 per week.
An automobile for \$12.50 per week. Send
stamp for particulars. Automobile and Motor-Bi
Co., Room 814, Colonial Bldg., Boston.FOR SALE—About 21,000 feet best Mannes-
man's Imported Tubing, 5-8 in., 3-4 in., 1-3-16
in., 7-8 in., 1-5-16 in., and 1 in. 16, 18, 20, and 22
guage at 4 1-2 cents per foot, as long as it lasts.
Estate of JOHN MC CLAVE, 604 West 22nd St. N.
Y. City.WANTED—Bicycle repairer. One understand-
ing assembling preferred. Must be temper-
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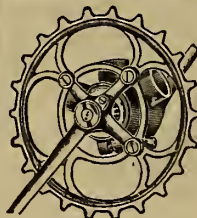
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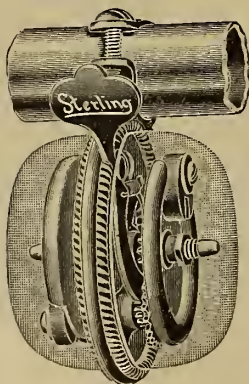
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The Bicycling World

AND MOTOCYCLE REVIEW.

In which is incorporated "The Wheel and Cycling Trade Review" and the "American Cyclist."

Volume XLIV.

New York, U. S. A., Thursday, February 6, 1902.

No. 19

NEW YORK'S NEW CLUB

**The Trade Enters Heartily Into the Project
—Will Settle Cycle Show Tonight.**

It may now be said that the cycle tradesmen of the metropolitan district are once more interested in cycling affairs outside the particular four walls for which each individual pays rent.

That the renewal of interest is genuine and of considerable extent was made evident at the meeting on Thursday night last, when the organization of the projected club was successfully accomplished by the adoption of the name Metropole Cycling Club and the election of these officers:

President, R. G. Betts, of The Bicycling World; vice-president, Charles E. Walker, of the American Cycle Mfg. Co.; secretary, L. C. Boardman, of the Tri-Weekly Tribune; treasurer, M. L. Bridgman, in the retail trade on his own account; captain, W. H. Mackey, a business man and enthusiastic cyclist without cycle trade affiliations. The executive committee comprises the officers and the following members at large: W. C. Marion, of Morgan & Wright; George E. Stackhouse, of The Daily Tribune; C. A. Persons, of the Royal Motor Works, and F. C. Gilbert, of the American Cycle Mfg. Co.

The roster of the club, in addition to those named, is almost a directory of the metropolitan trade and of the veterans who ten, fifteen and twenty years ago were in the thick of everything in which cycling was concerned. Elliott Mason, for nineteen years manager of the Columbia branch; W. Russell Pitman, whose cycling experience dates back to 1877; John C. Wetmore, of the New York Herald and several other papers; Arthur N. Jervis, of The New York Sun; Harris Parker, of C. B. Barker & Co.; E. J. Willis and Charles E. Miller, the well known jobbers; T. Franklin Cannon, of the George N. Pierce Co.; A. G. Batchelder, chairman of the National Cycling Association; G. M. Henry, of the Stearns Bicycle Agency; Frank Eveland, of the Spalding-Bidwell Co.; T. F. Merseles, W. M. Brewster and E. E. Tuttle, of the American Cycle Mfg. Co.; Henry Van Arsdale, of the Wisconsin Wheel Works; W. J. Cronin, of the Duck Brake Co.; Joseph Good-

man, F. W. Roche, S. Wallis Merrihew and E. L. Ferguson, of the Bicycling World; Edward A. Daviss, A. C. Beckert, Otto Schnabel, retail dealers of New York; Alex Schwalbach and W. H. Briggs, Brooklyn dealers, and Frank L. C. Martin and other New Jersey men. All these and a score of others, riders and tradesmen alike, are enrolled; the names serve to show the character of the club and the nature of the awakening, and each day is adding to the membership.

The doctrine of the club, briefly stated, is the doctrine "do something." To assure that the term shall not be a mere figure of speech and that the club shall maintain activity, the bylaws provide for a Committee on Plans and Projects, which is appointed every third month. It is made obligatory on each committee to plan and carry out at least one event of cycling interest during its life, regardless of any other project that any special committee may have in hand. In this way each member in turn will be given an opportunity to share in the work and to exercise his wits. A committee on publicity was also provided for. The captain is required to call and conduct at least one run each month, and to use his best endeavors to conduct at least one tour of a week's duration or more each year.

The interest displayed was of an encouraging character, suggestions of what might be done being plentiful. Two of them took definite form. One, a motion to celebrate the "silver anniversary," or quadri-centennial, of the American bicycle, the manufacture of which was begun in 1877, was referred to the executive committee for consideration. The other resulted in the appointment of a committee of five, with E. H. Smith, chairman, to canvass the trade for opinions as to the advisability of holding a local cycle show. This committee will render its report at a special meeting, which will occur to-night.

A midsummer outdoor carnival, a coaster brake contest, a motor bicycle endurance run, were among the other projects talked of. They will be undoubtedly taken up and discussed in due course.

The headquarters of the Metropole Club will be 10 West Sixtieth street, Treasurer Bridgman having generously placed his locker rooms and reading room at the disposal of the organization.

WANT TRUST INVESTIGATED

Dissatisfied Stockholders of Canada's Big Company Pass Caustic Resolutions.

It should surprise no one to learn that the stockholders of the Canada Cycle and Motor Co. have formally expressed "intense dissatisfaction" with the state of affairs as disclosed by the last annual statement. Even to a trade that has grown hardened to unpleasant conditions, that document was one calculated to make men blink.

It will be recalled that it showed that practically every cent of cash in reach and in reserve had been used to pay dividends on the stock, the year's profits of themselves amounting only to some \$2,035. The directors blamed the weather and pretty much everything and every one but themselves, and then let themselves down easily by promising to "be good" in the future.

The promise, unfortunately, did not satisfy the general stockholders, and those of them who reside in Toronto got together last week and set afoot a movement that, according to the grapevine telegraph, may result in some unexpected and disagreeable exposures and changes in official stations. The Toronto men practically charge the directors of the company with "stock jobbery," and seek to force them to restore the \$175,000 apparently unwarrantedly disbursed in dividends. A committee was appointed to communicate with the stockholders throughout the Dominion; this done it seems likely that an investigating committee will be brought into being to delve into the affairs of the committee.

The opinions and desires of the disgusted Torontoians were expressed as mildly as feelings would permit in the following resolution:

Resolved, That the shareholders of the Canada Cycle and Motor Co., resident in Toronto, in meeting assembled this 27th day of January, 1902, place ourselves on record as follows:

1. That we express our intense dissatisfaction with the last annual statement, presented by the directors of this company to its shareholders, bristling as it does with admitted errors of judgment and lack of busi-

HOW GOES THE SPORT

N. C. A.'s Annual Meeting Shows Situation
—What was Done—Hendee President.

At the Astor House, this city, the National Cycling Association yesterday held its annual meeting. It transacted a remarkable amount of business in a remarkably short time. The sport was shown to be in a gratifying condition, 700 sanctioned race meets having been held during the year, and more than \$200,000 in prizes having been distributed. The receipts of the association from all sources were \$6,918.53; expenses, \$6,055.98, leaving a balance of \$854.56. The officers and committees for the ensuing year were elected as follows:

President, G. M. Hendee, Springfield; first vice-president, C. B. Bloemcke, Newark, N. J.; second vice-president, Col. Felix R. Wendelschaefer, Providence; secretary, Thomas A. Roe, New York; treasurer, A. G. Batchelder.

Board of Control: A. G. Batchelder, chairman, New York; R. F. Kelsey, Boston, District A; N. E. Turgeon, Buffalo, District B; C. R. Klosterman, Baltimore, District C; Harry Hartley, Jacksonville, Fla., District D; W. I. Doty, Denver, Rocky Mountain District; W. L. Loos, Los Angeles, Pacific District; Frank L. Kramer, Orange, N. J., representing the American Racing Cyclists' Union. District G, which includes Chicago, was discontinued owing to lack of racing interest.

By a unanimous vote, the members of the Board of Appeals were requested to retain their offices. The members are G. A. Needham, Kings County Wheelmen, chairman; Abbott Bassett, secretary of the L. A. W., Boston; M. L. Bridgman, N. Y. A. C., and S. A. Miles, Chicago.

A committee of five, with A. G. Batchelder as chairman, was appointed to revise the constitution and by-laws; they will report April 7. Mr. Batchelder, F. L. Kramer and Howard B. Freeman were also named as a committee to consider the establishment of a benevolent fund for the aid of indigent, injured and superannuated racing men. It is probable that they will conduct a benefit race meeting to give the fund a start.

Tom Eck's projected track at Coney Island was given a setback, the association refusing his application for a franchise on the ground that Eck had not the financial means to consummate such an enterprise. Incidentally, it developed that Jimmy Michael was Eck's partner in the enterprise.

Floyd McFarland, the firebrand, than whom none more richly merits a good taste of rigid discipline, was once more the subject of leniency. As the ringleader in the Boston six-day riot he had been fined \$400 and suspended until May 15; by vote of the meeting, the decision of the Board of Appeals was overturned and the fine was reduced to \$50. Incidentally, it developed that the promoter of the Boston race had not

only not paid the prize money, but had lost \$2,100 on the venture. The matter of effecting a settlement was left with a committee who will report at an adjourned meeting on April 7. Another exhibition of the elasticity of the N. C. A. backbone developed in the lifting of the life suspension meted out to Orlando Stevens and Jay Eaton for riding a fixed race at Vailsburg last year. Sentence was commuted to two years, which will permit these crooked riders to compete again after August 1. Eddie McDuffie, who previous to the formation of the N. C. A. had been fined by the A. R. C. U. and who refused to pay the fine, was shown no such generosity, his case being referred back to Racing Cyclists' Union.

The Franchise Committee, appointed at a previous meeting, recommended that the franchise be divided into three classes: A permanent franchise, which shall entitle the holder to the exclusive right to hold and conduct bicycle meets within five miles in every direction; a conditional franchise, which shall be a permanent franchise with certain restrictive conditions, and a temporary franchise that may be granted for one to twelve months. The recommendation was referred to the Committee on Revision of Constitution.

Following the N. C. A. meeting, that perennial plant, a track owners' association was organized under the title of the American Bicycle Track Association, J. Frank Eline, Baltimore, president.

Keim's Change of Policy.

If in the John R. Keim line there is nothing that appeals to the live, aggressive agent or any one who is in the business to make money, he must be an oddly constructed individual, indeed. With one of the largest plants in the world, which was built and equipped specially for the manufacture of bicycle fittings, parts and complete wheels, the Keim output has heretofore been taken mostly by the large jobbers and distributing houses.

This year a new policy has been inaugurated, and the experiment is being tried of offering the complete line direct to the dealer at about the price the jobber has been accustomed to pay. The choice is offered of complete frame sets, or complete frames, from which a dealer can build almost any style of wheel he wishes, caps, shells and the various accessories in a bewildering number of sizes, and, in fact, as the maker expresses it, "bicycle materials as you want them and when you want them."

In addition to the parts required by the builder, a line of complete bicycles for both adults and juveniles is offered for the agent's consideration. The reputation of the Keim product is too well known to need extended comment. The famous Keim and Genesee pedals, Keim hubs and various parts are well known to the trade of the world. An interesting addition to the Keim family this year is the Regas spring stays, which have already attracted considerable attention, and which make it possible for any one to put up an anti-vibratory bicycle.

ness sagacity on the part of those whose reputation in the community led many to expect different results.

2. That we express our dissatisfaction with and hearty disapproval of the policy of the directors in paying dividends of \$175,000 when but \$2,035.28 had been earned, and cannot accept the statement made that the directors were not in a position to know what business was being done (considering also the fact that the last dividend of \$87,500 was paid in July, and the year's business of the company ended August 31), for it was their duty as directors to find out what money was in hand before declaring and paying a dividend.

3. That we express our disapproval of their policy of paying dividends, because it induces many to purchase stocks as a dividend paying investment, and it leads also to the conviction that the purpose of paying dividends such as above mentioned is to induce purchases of it and cause the stock to have an inflated value.

4. That we express our entire disapproval of the policy of the directors of this company in withholding from its shareholders a full and complete statement of the details as to expenditure and receipts of the said company.

5. That we believe it in the interests of the shareholders of this company and the public generally that the government of this province should appoint a commission to investigate into the affairs of this company from its inception, and make public the result of this investigation.

6. That we bind ourselves to united action in endeavoring to make the directors of this company restore to its treasury the sum of \$175,000, paid out in dividends last year, and to such further action as the advisory board appointed at this meeting shall see fit to undertake.

7. That copies of this resolution be forwarded to every shareholder of this company and be published in the newspapers of this city.

Messrs. R. Thompson, G. W. Bedells, W. H. Mulkins, W. A. Lamport and Gray were appointed an advisory board for the purpose of considering what action should be taken on behalf of the shareholders against the directors, and to do whatever may be necessary to secure to the shareholders the largest possible relief against the directors, and also to communicate with all the shareholders with a view to secure their co-operation and assistance in the prosecution of whatever course they might take.

Fatalities in France.

In France, according to the statistics for the month of October, the fatal accidents were divided as follows: Horse, 62 per cent; railway, 18 per cent; bicycle, 16 per cent; automobile, 4 per cent. The bicycle percentage was made higher than usual by an increase of 33 per cent owing to lack of brakes on hills.

NEW YORK JOBBERS NOW

**They may Organize and Issue an Ultimatum
—What one of Them Favors.**

Efforts are now being made to bring about an organization of cycle jobbers of New York State similar to that recently organized in New England. The trade is now being sounded on the subject, but the sounding has not progressed sufficiently to render possible a forecast of the result. The effort originated up the State. The movement does not lack supporters, however, who have felt the effects of the indiscriminate quotation of jobbers' prices to any one using a jobber's letter head, regardless of his location or the volume of the purchases.

To a *Bicycling World* man a New York City jobber who favors the organization expressed himself as anxious to go further than the New England association.

"I believe," he said, "in discouraging the sale of the goods of those manufacturers who apparently do not know where to draw the line or who will not do so. But there is another item that costs us as much in the course of a season—the item of bad debts. The ease with which dealers of doubtful risk can obtain credit is amazing. I must have 300 accounts on my books right now of men who failed to pay their bills and to whom I refused further credit, yet to my certain knowledge they are getting goods elsewhere in the city. It seems to be a regular game of some of them to buy of one jobber this year, of another the next year and so on, until their names are on the wrong side of the ledgers of every jobber in town.

"What I favor is not only the delivering of an ultimatum to manufacturers on the lines of the New England declaration, but an interchange of credit information among ourselves. I am ready and anxious to do my part, and if the other jobbers share the feeling, I believe we can all save a pretty item in the course of a year."

Copeland and Columbia Part.

James S. Copeland, one of the most noted bicycle inventors in this country, retired from the American Cycle Mfg. Co. on February 1. He was with the Weed Sewing Machine Co. over thirty years ago, and when the plant of that company was purchased by the Pope Manufacturing Co. he went with the latter company.

Mr. Copeland was not only the inventor of many improvements in the bicycle itself, but was also famed for his machine tools used in the construction of parts. His fame was linked with that of the Columbia bicycle, and it may be fairly said that the reputation of the two were inseparable.

Budlong's new Berth.

M. J. Budlong has been elected treasurer of the Electric Vehicle Co., Hartford. He was for many years manager of the Columbia branch in Chicago.

Decline of the Dunlop Monopoly.

The balance sheet of the English tire monopoly, the Dunlop Pneumatic Tire Company, Ltd., is out for 1901, and in comparison with 1900 shows large decreases all through, with two or three exceptions, which are nominal in comparison.

In 1900 the net trading profit, including royalties, etc., was \$1,415,745. In 1901 it was \$1,233,292, showing a decrease of \$182,453.

In 1900 the amount available for distribution for interest on the various shares and funds was \$2,216,638. In 1901 the amount was \$1,956,454, a decrease of \$260,183. Of the amounts, \$597,241 was paid as dividends in 1900, and \$596,876 in 1901, the slight difference being due to the purchase of debentures on the part of the company.

Patent rights and goodwill have been decreased from \$20,615,339 to \$19,384,241, a writing off of \$1,231,098.

The investments have been written down from \$3,231,209 to \$1,414,005. This latter amount is stated by the directors to be nominal, the actual amount being \$2,164,280. In explanation the directors state that while they have written down those which have depreciated, they have not increased those which have gone up in value. The income from this source is sufficient to pay debenture interest and preferred interest.

The total property and assets have decreased from \$27,142,825 to \$23,858,071.

Some of Wilmot's Ways.

W. D. Wilmot, the Fall River veteran, was in New York last week, mainly to obtain a line of household utensils which he is adding to his other side lines, sporting goods and phonographs. Wilmot, being one of the really wideawake and progressive dealers, has small fault to find with the bicycle business; he looks for an even better season this year.

"People are already inquiring for the new models," he said, "and though I have them in the store, I have not even uncrated them."

Of course, this unusual attitude caused remarks of surprise.

"I thought it all over," said Wilmot in response, "and decided to do the right thing. I'll have a formal 'opening,' with invitations and music, and get more out of the new models in that way than by simply uncrating them and waiting for people to drop in."

Wilmot is strong on the cycle shows. He believes in them, and when told that only a local or district show in New York was possible, he ejaculated: "Let us all in on it. Call it a New York and New England show, and we will all be there."

Manson Dividend Due.

The trustee of the defunct Manson Cycle Co., Chicago, has filed his final report, showing \$2,546.49 on hand. The referee in bankruptcy will declare the dividend on the 14th inst.

GOODYEAR'S TIRE DEAL

Takes out a Morgan & Wright License and Promises to Make Things Interesting.

Henceforth the Morgan & Wright, or laced type of double tube tire will share with single tubes the attention of the Goodyear Tire & Rubber Co., Akron, Ohio. Arrangements to manufacture under the Morgan & Wright patents were completed last week and are now in full effect.

While they have made inner tubes in enormous quantities, the manufacture of closed end tubes and of laced tires complete is in the nature of a considerable departure for the Goodyear people and one not without significance.

The fact that not only is protection from litigation assured, but that the Goodyear Co. refers to the item of price in a manner that suggests something unusual, lends additional interest to the deal.

Orient Men and Money.

The capital stock of the Waltham Mfg. Co. has been increased from \$300,000 to \$600,000. Concurrently H. C. Williams has been elected president, L. B. Gaylor, general manager and M. P. Clough treasurer. Mr. Williams states that the Orient business has picked up amazingly, and that prospects for a splendid selling season were never more favorable.

Nott Got What he Wanted.

W. G. Nott, who was formerly interested in the concern, has purchased the unfinished stock and material of the bankrupt Co-operative Cycle & Motor Co., St. Catharines, Canada, and set up himself, at 15 Alice Street, Toronto. He will work off the stock and continue the manufacture of bicycles at that address.

Quits Cycling for Paper Boxes.

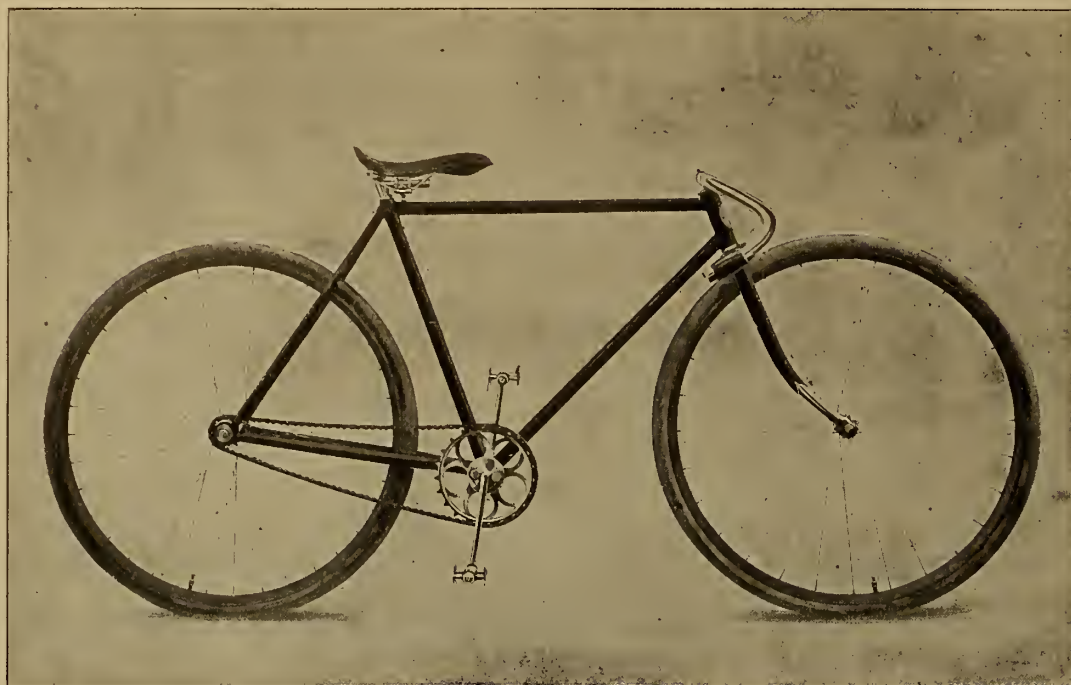
George W. Shannon, manager of the Stearns Bicycle Agency's New York branch, and one of the "old guard" of cycling, has quitted the cycle trade for the paper box industry. He is succeeded by his former assistant, G. M. Henry, who is no stranger to bicycles or his duties.

Refused to Appoint Receiver.

The application for a temporary receiver for the Coddling Mfg. Co., Bristol, was denied by the Connecticut Superior Court. It was stated to the court that the company had assets of \$32,000 and liabilities of \$4,000. Under the circumstances Judge Wheeler did not believe a receiver necessary.

Dunlop Profits in France.

The report from the French Dunlop company shows that the capital is \$485,626, on which a dividend of 12½ per cent has been paid.



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National
LIKE THIS

THAT FENN RODE
WHEN HE MADE THE
5 MILE WORLD'S UN-
PACED COMPETITION
RECORD, 10.33 2-5. ::



WE HAVE
NUMEROUS "GOOD THINGS"
FOR 1902.

National Cycle Mfg. Co.,
BAY CITY, MICH.

WHAT'S THE USE

of experimenting with different makes of tires when you have such an apparent bargain offered you as we present.

FISK TIRES FOR BICYCLES AND AUTOMOBILES

are the embodiment of nine years' experience in tire making. The steadily increasing demand for them proves their superiority. Their price is the lowest for which a really good tire can be sold.

No matter where you look or how much you experiment you can't find a better combination of high quality and low price than is found in Fisk Tires.

Don't take any chances. You can't do any better for your money.

FISK RUBBER COMPANY, Chicopee Falls, Mass.

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BUFFALO, 28 W. Genesee St.	DETROIT, 252 Jefferson Ave.	CHICAGO, 54 State St.	SAN FRANCISCO, 114 Second St.	

THE BICYCLING WORLD

FOUNDED 1877
and MOTORCYCLE REVIEW

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the "The Wheel" and the "American Cyclist."

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Members of the trade are invited and are at all times welcome to make our office their headquarters while in New York; our facilities and information will be at their command.

To Facilitate Matters Our Patrons Should

Address us at P. O. Box 649.

NEW YORK, FEBRUARY 6, 1902.

The Regeneration of Cycling.

At this time the organization of a cycling club anywhere is, of course, an occurrence entitled to remark. The organization in New York of such a club as was formed here last week, and as is referred to in another column, is in the nature of not merely an occurrence, but of an event, and an uncommon one.

The names of those who comprise the Metropolitan Cycling Club constitute a sufficient index to its character. Some of them, at least, stand for that which gave cycling life, interest and purpose. They drew about them others of their kind, helped mould public opinion, and their doings and sayings kept the bicycle in the public eye and gave it that glamor that attracts and that made converts of sceptics.

When such men join with others, who have vital interests at stake—interests which had been permitted to suffer because of inaction or overconfidence—in renewing their interest and in refreshing their enthusiasm, it will be strange, indeed, if the spirit does not

make its influence felt over a wide area and the cycling interests generally take on a healthier glow.

With "do something" as its actuating and guiding principle and with plans well shaped to attain that end, some benefit at least must result.

The part that the trade is playing in the new movement is no more than it should play. We repeat what we said in November last:

"In the good old days before the boom, and before the boom brought fleeting affluence to the trade, the dealer was concerned in every movement that affected cycling.

"Generally speaking, he was, if not the promoter of it, he was more than apt to be in the thick and forefront of it.

"He was a big factor in club life, in L. A. W. work, in the coasting contests, the hill climbing contests and the road races, in side-path and good roads endeavor, and in pretty much everything else that aroused enthusiasm and interest and that advertised the bicycle. He was essentially a cycling leader in his community.

"Does anything that even begins to suggest such a state of affairs exist to-day?

"We all know that it does not.

"The dealer became 'too busy to ride with his club' or to devote a moment to anything that did not directly promise the return of a money profit.

"He was among the first to abandon the club and the league and everything save his own immediate affairs.

"If afterward he ever had an idea that might have benefited the cycling interests he could not put it into practice if he would; usually, however, he rarely was burdened by ideas of the sort.

"He simply drew himself into a hole, and there he is peeking out of it to-day.

"Cycling clubs are few and far between, ditto road races, ditto hill climbs, ditto coasting contests, the L. A. W. has become a mere shadow, sidepaths are becoming grass grown cowpaths, good roads have become the prattle of automobilists. The man or woman who might purchase a bicycle if enthusiasm existed or congenial and cyclingly informed companionship was easily formed must seek far for it; the wheelman or wheelwoman who would 'ride more' were he or she sure of finding companionship at a given time and place can be sure of nothing of the sort.

"We have no false ideas on the subject.

"The days of big clubs and elaborate club-

houses and processionlike club runs are, perhaps, past for all time.

"We look for no great enfolding wave of renewed enthusiasm that will carry the world with it. Our point is simply this: If it is anybody's business to create and encourage and continue cycling interest and enthusiasm—if it is anybody's business to provide congenial companionship and to promote movements that advertise the bicycle—it is the cycle trade's business; it is the business of dealers in each particular city or town, since they are the ones who reap the material benefit.

"If they are content only to complain and to do nothing that will arouse and advertise their interests—the cycling interests—they are to blame for their poor business or ill fortune.

"In this broad land how many dealers can ask themselves the question, 'Have I done anything to arouse or stimulate cycling interest?' and answer it affirmatively?

"Can you?

"If you have not done so, if you do not so, who will?

"Put the interrogation to yourself and face it squarely.

"If you care to take refuge in the house of What's-the-use, if you prate of 'the folly of regalanizing a corpse,' you will do nothing and nothing will be done. You will continue to curse your luck."

When nothing is done nothing is the result.

"The apples fall to the man who shakes the tree."

When the cycle trade appreciates the full significance of this precept and begins to shake the tree it will gather apples—then and only then.

It is this policy that we urge—the do-something policy, the shake-the-tree policy.

New York has set the example, and is showing the way. In previous years New York's example was sufficient for the remainder of the country. If history and precedent hold true, cycling will once more be made attractive and interesting and claim the attention of press and public.

The Equipment of Motor Bicycles.

With the coming of the motor bicycle there will be presented a number of new factors in its sales that merits the consideration of all engaged in its manufacture. Take the matter of tool equipment. This alone offers much food for thought, as exemplified by one maker of last year and rumors on the same general lines for the coming season.

With pedal driven bicycles it has been the

practise to include in the tool bag a screw-driver, a monkey wrench and an oil can. These are also essential to the motor bicycle, but there are other devices that are equally essential to their successful operation.

The two essential devices in mind are a battery tester and a gasoline tester, or, as it is sometimes called, a densimeter. The lack of these has caused many a motocyclist to condemn a machine that was really without fault. Another tool that is of undeniable value at times is a small pair of cutting pliers, and in at least one motor bicycle of last year this was supplied regularly.

While this last named tool can be dispensed with, or at least its lack will not materially be a factor in condemning the entire bicycle when only an outside cause is at fault, the supplying of the two testers will save many letters of complaint and much extreme vexation, to say nothing of time and postage.

At first blush it may seem that the cost of these two, no matter how small, would militate against their being included in the regular equipment. A little study of the matter should, however, convince that such is not the case. The determining factor in increasing the sales in any one community will be the satisfaction given in the use of the first motor bicycle in that community, and any aid that the maker can furnish to that end will be a most excellent investment.

Too often has it been, because the first buyer at any one point was forgetful or careless of the instructions sent him regarding battery and gasoline, that he not only became discouraged, but discouraged others, either by the exhibition he gave or because he took particular delight in condemning something he, as a matter of fact, knew nothing about.

Had he been supplied with the visual reminder of the two testers they would have appealed to him by their very presence. In place of sending his machine back, only to learn that the battery had been bled to death or that the gasoline was of such poor quality that it would not gasify, the error or errors would have been located.

As 90 per cent of the novice's troubles are electrical and 7 per cent from gasoline, the needs for such consideration as here suggested are self-apparent.

What the L. A. W. Might do.

In one of the few places in which genuine interest in the once proud League of American Wheelmen still exists, i. e., Torrington,

Conn., the attenuated National Assembly of the organization will convene in annual session on Wednesday next.

From what little can be learned, the most momentous movement on tapis is apparently one which has for its object the ousting of Secretary Bassett and the removal of his office from Boston to New York, where, presumably, it is designed that the duties shall be joined with and performed by the volunteer secretary of the New York Division, a white haired gentleman whose patriotism and good intentions are beyond doubting.

Despite the unspeiced humdrum that the Torrington meeting promises, it merits some attention.

The right man, as we stated on a previous occasion, will quickly grasp that the mere cry "Good Roads" will not attract members in any considerable numbers nor increase interest in the organization. The cry is a worthy one, and all that, but it appeals mainly to the devoted few; the selfish many must be tempted with more alluring bait.

As a substitute or as a running mate, we suggested that Touring be coupled with Good Roads and be given equal prominence. We advised League officials to study the Touring Club of France, which has 80,000 members and an overflowing treasury, while the L. A. W. has a dwindling 10,000, and is not only bankrupt, but, with its farcical \$10 life membership, has a semi-mortgage on its soul. In order that they may have no excuse we caused our Paris correspondent to forward the working plan of the French organization, and this is presented at length on another page. In its salient features the Touring Club is built on much the same lines as the League; the most essential difference is its treatment of touring. In the one its promotion is a living fact and a cardinal virtue; in the other it comprises a line in the constitution and the appointment of a committee which, if it ever did anything, succeeded admirably in keeping it well concealed.

But what the French club is doing the League of American Wheelmen can do.

We are apt to glow at the thought of a ride along the Rhine—a short day's ride at that—with its "renewed" castles and its squatty, moth eaten hills, forgetful or ignorant that the route along the Hudson is infinitely more picturesque and teeming with legend and history. We dream of a visit to the battlefield of Waterloo, when the Shenandoah Valley and Gettysburg to the eye and in markings, monuments and interest is

immeasurably its superior. We long for "sunny Spain"; we forget California. We have visions of Switzerland; we neglect Colorado.

In opening American eyes and minds to these things, the L. A. W. has a rich and worthy field for endeavor. Talk of touring and promotion of tours will help mould the cycling populace, for only on a bicycle is it possible to tour as one should tour, to see all that there is to be seen and experience all that there is to be experienced. In this endeavor the League would be practically alone and unrivalled, which is no longer the case with good roads work.

At the time the *Bicycling World* first suggested that touring be made the most prominent plank in the League's platform, the League's brilliant president, in a letter so teeming with rank blackguardry as to be unfit for publication, attempted to argue that we had no roads fit for touring, hence "good roads" must be the battle cry sine die. It is but one specimen of the Michigander's ignorance. Wheelmen, in whom the desire existed, were touring before he was ever heard of, and have toured since. There are roads and scenes in plenty for the purpose.

We repeat, also, that the L. A. W. should formally take motor bicycles under its wing. True, its scintillating executive cannot find that the League's constitution provides for "traction engines," as he terms the new comer, but it is time to brush aside such hairsplitting pettifoggery. When the L. A. W. was formed it was designed to care only for high bicycles with solid tires, but when safeties and, later, pneumatic tires came in, the then presidents did not lose their tempers or good manners and in a straining-at-gnats fashion attempt to close the doors to the newer creations; they stood for progress. The motor bicycle is coming strong, and if the League officials are wise they will prepare for it. There was organized some two years since the Associated American Motocyclists, which had and may have national aspirations; it is now moribund, and the League would perform a diplomatic stroke in making overtures and gathering it in, a consummation which we fancy is easily possible.

All this and more the Torrington meeting can do. What it will do is another question. But one thing is certain, the League must be made more attractive and fuller of human interest for the average cyclist or it will never regain strength and influence, but rather will pass into reposeful dotage, sustained only by the faithful view.

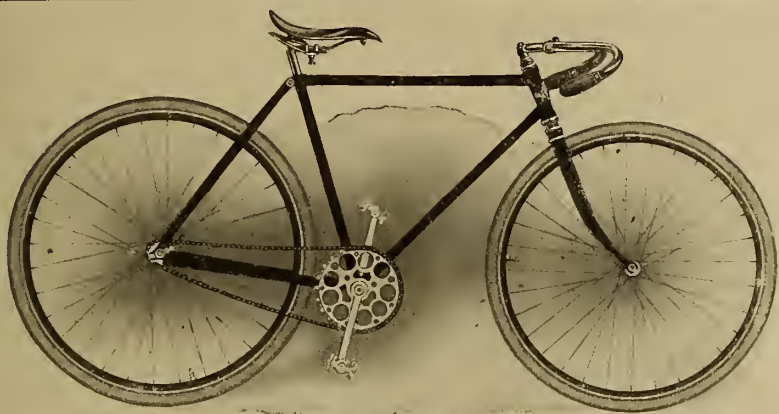
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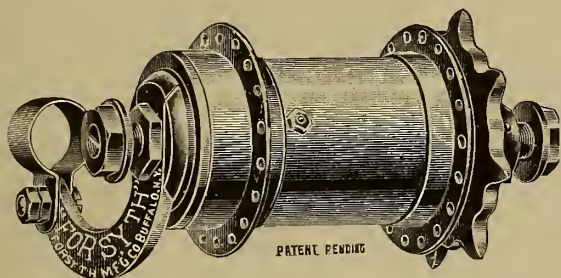
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PISTON RING PERPLEXITIES

Part They Play in Loss of Motor Power—
Corrections Within Reach.

It has been the general practice in boring cylinders to place them either in a jack strap or a fixed chuck, and then cut out the cylinder to size with a boring bar, depending on a final tool used for the last cut to give the necessary finish, the size being gauged with a plug, before assembling. After assembling the final smoothing of the cylinder walls depended upon the amount of "running up" that was given on the testing stand. Some makers have taken the trouble to lap their cylinders, but either of these methods are crude as compared with that of grinding the cylinder walls, a practice that is coming into vogue with the more progressive makers.

In making piston rings they are first cast in one piece, and the outer face turned down to a slighter larger diameter than the bore of the cylinder. The inner wall is turned eccentric with the outer wall. They are then cut across the thinnest point to allow for spring in putting them in place, and that they may fit the cylinder under the expanding and contracting influences of the exploding gases. The cut in a ring is usually made obliquely, but there are some designers who believe that a straight dovetail cut will give much better results in holding compression, because there is never a straight opening across the ring when it is in its full expanded position. Another feature of this style of cutting is that it reduces the chances for loss of compression from the following cause.

It sometimes happens that all the rings will move around in the piston grooves until the cuts come in an approximate line up and down. It will be seen that when this takes place with rings having the open cut, the chances are very large that compression will leak through the fairly direct passage thus made. When the above mentioned overlapping cut is made it will be realized that even though the cuts do get in line, there is but little chance for straightaway leakage, as none of the rings are full open at any point in their circle.

In turning up the rings a final cut has also been depended upon for finishing before assembling, and the running up process used as a method for smoothing and final finishing. The same objections hold true with the rings that do with the cylinder, and the proper method is to grind them true. It is well recognized among high class mechanics in the best machine tool practice that there is no tool in the world equal to the highly speeded revolving emery wheel to detect errors and inequalities in surfaces; no tool so sensitive. Depending on the ability of the workmen where only a finishing tool cut is the final operation in cylinder and rings,

it will take from 300 to 500 miles of running before they have the glasslike surface that gives such excellent results, all else being equal. With a cylinder and rings ground as the final operation, the running that the motor gets on the testing stand will give the much desired condition. Another effect of grinding is that true circles are the result, whereas in only turning with a tool there is always a possibility that one or both will be out of round at some point. This means leakage and loss of compression.

In putting in a new ring it is always best to try the ring in the cylinder before it is put in its groove in the piston, in order that the influence of the cut may be noted—that is, it should be looked to that the cut is not so wide that the ends of the rings are so far apart that they present a positive gap, while on the other hand care should be taken that the ends are positively level, if there is the slightest indication that the ring is too tight a fit. In other words, if the obliquely cut ends have to slide by each other to fit the ring circumferentially, then the cut has not been made wide enough. When the ends are perfectly level, then the cut should open about the thickness of a calling card. The ring should also be tried in its groove in the piston to see that it is not too wide or too narrow. If too narrow, it will leak compression, and, if too wide, it will bind the piston at once or as soon as it becomes heated.

While not all designers are agreed as to which is the better cut, the oblique or the overlapping, it can be said for the latter that if it is properly proportioned it allows greater latitude in the way of fitting. Another point that is well to remember in fitting rings is that if any one of the set is stiffer than the rest that one should be placed at the top; if all other trials have failed to stop weakening power try this. As a last resort look at the piston rings and note if they have places that dull between other places that are highly polished. If this is the case, then either the rings or the cylinder are the perfect circles as dwelt upon in the comments on grinding. If the piston itself shows the same condition, then this is usually from another cause.

Linscott's Tire Deals.

Manager Linscott, of the Boston Cycle and Sundry Co., Boston, Mass., is great on tire deals. Two years ago he bought up the stock of the Newton Rubber Works, last year he took over all the Kangaroo tires he could get hold of, and this year he purchased what the New Brunswick Tire Co. "clean up" made possible—some 13,300 pairs in all. In previous years, as a result of his deals, Linscott was able to make some eye opening quotations, but on his latest purchase he promises something even better. Incidentally, Linscott is of the number who is feeling the effects of the renewal of interest and confidence that is sweeping the trade; his sales during December and January were, he states, more than double those of the same months last year.

AROUSED THE ALGERIANS

Why a Coasting Contest in a Level Country
was Declared off and Then on Again.

One of the projects which was suggested at the meeting of the newly formed Metro-pole Cycling Club, and which will likely take definite shape later in the season, is a coaster brake contest.

Lacking formal action, nothing more may be said of it at this time, but in discussing the subject after the meeting a man who was formerly engaged in the cycle trade in New Orleans, and who is now resident in New York, told a good story of the first and only coasting contest ever held in the Southern metropolis. It occurred several years ago, before coaster brakes were known, and about the time an epidemic of such contests followed the initial event in New York.

To any one familiar with the Crescent City and its surroundings, the very idea of a coasting contest is amusing. The city and the country for miles in all directions is as level as a floor. But the fact did not dampen the ardor of the local club which undertook to carry out the affair. In casting about for a "hill" the committee in charge finally hit upon a gently sloping railroad viaduct in Algiers, a sleepy across the river suburb of New Orleans. The viaduct was about 300 yards long, and led directly to the vitrified brick pavement of the main street in Algiers.

When its selection was announced in the New Orleans dailies an Algiers editor promptly "rushed to arms." He denounced the coasting contest as a hellish invention, designed to maim innocent women and children, and called on his fellow citizens to prevent it at all hazards. He actually suggested that if the authorities failed to act that the Algerians themselves strew the course with tacks or blockade it with cross-ties. He worked up his townsmen to such a state of mind that it was deemed prudent to declare the event off.

After this was done the Algiers people learned the real nature of a coasting contest, and realized that they had made fools of themselves. As a result a delegation crossed the river and waited on the New Orleans club. They almost begged that the event be held, promising police protection and anything else that the club might specify. They were so pressing in their invitation that the contest was finally reundertaken and successfully carried out, affording the penitent Algerians more excitement than usually falls to their lot.

Mail-Order "Brass."

"— & — guarantee the tires and we guarantee — & —," is one of the brazen assurances that appear in the 1902 catalogue of a mail order house. Whether the tire manufacturers mentioned relish being "guaranteed" by such a house is a pretty question.

UNLIKE THE LEAGUE

**Remarkable Success of French Touring Club
—Lessons it Holds for L. A. W.**

Paris, Jan. 20.—While the League of American Wheelmen continues on the down grade, it may be not only interesting but very instructive to examine the situation of a similar organization which is now probably the most powerful and influential body of its kind in the world.

Much has been said, and erroneously said, about the falling off in cycling enthusiasm, as if the sport and pastime had about had their day, and this is supposed to be reflected in the position of the League and kindred associations. But here in France the fluctuations in public feeling towards cycling have never had any effect upon the Touring Club de France, and while the sport has dwindled, the Touring Club, like Tennyson's brook, goes on and on and looks able to go on for ever with unabated energy.

If we look for the causes which have enabled the Touring Club to attain to its present position we may attribute its success to the fact that it has mapped out a definite line of action, which is what its name implies, the encouragement of touring. It has resisted all temptation to look after the interests of the sport, and has never in any way sought to control cycle racing, which has been left entirely to the Union Vélocipédique de France.

The difference between the U. V. F. and the Touring Club is that while the latter controls only a few score professionals, and divides responsibility over the amateur class, the Touring Club looks after the interests of a million cyclists. Its work, therefore, is sufficiently vast to occupy its attention without going into the byways of the sport. In order to get authority, it must have a big following, and every facility is given to cyclists to join the club. Anyone properly presented can become a member by paying a fee of \$1 a year, and existing members are offered a special club badge in the event of their bringing in a certain number of new adherents. The present membership is nearly 80,000, and the number steadily increases every year.

The Touring Club was founded in 1900 and was practically the work of M. A. Bailiff, who is still the president, and may be regarded as the perpetual president, for there has never been any suggestion of replacing him with another man. The T. C. F. is indeed M. A. Bailiff, and we are so accustomed to this association of names that, deprived of him, the T. C. F. would be a body without a head. But the club is by no means a one man concern. The president has gathered around him the most eminent and useful men in their different spheres, and besides the small executive bureau, there is a consulting committee, a legal committee and a technical committee. These different com-

mittees constitute the central organization. For the purposes of administration, France is divided into twenty sections, eighteen for continental France, one for Algeria and one for the colonies. There is also a special section for foreign countries. At the head of each section is a chief delegate, and in each department is a departmental delegate, while others may be appointed in the different towns, if desired. The delegates are selected among road surveyors, engineers, civil servants and others who are thoroughly acquainted with the district and are able to give practical assistance to cyclists. Quite a large number of them are doctors, and many other people of good social standing deem it an honor to be delegates of the T. C. F. Their duties are to look after the interests of tourists in their respective districts, give information to members as to the roads, hotels, etc., and the sites to be visited, keep their eyes on the condition of

lication of a great work entitled "Sites and Monuments, which, when completed, will form a pictorial presentment of all the leading attractions in France.

Of course, all this propaganda would be of little avail unless the tourist could find comfortable accommodation in the places he visits. The French hotels have always had the reputation of being hospitable. The cooking is excellent, the table good and prices reasonable, but provincial hotels have been a century behind the times in their sanitary arrangements. If the club did nothing else it would still have justified its existence in what it has accomplished in the way of hotel reform. In return for the custom offered by its 80,000 members, the hotels which place themselves under the patronage of the club have to consent to a reduction of 10 per cent upon their usual prices. The list of the hotels, as well as of repairers, dealers and others who make a similar reduction, is published in a guide for the convenience of members. But it is to the sanitary arrangements that the club has been giving special attention, and after some years of hard work most of the hotels are now fitted up with modern appliances which satisfy the most fastidious tourist. Any member who finds himself particularly well treated at an hotel is required to send its name to the club, when it is published in the monthly review.

The organizing of excursions forms one of the duties of the delegates of the different departments, and while in the neighborhood of Paris there are runs every Sunday from spring until fall, in each of the provincial sections two big excursions have to be organized every year, all this being done with a view of creating an association among members and keeping up an interest in the club.

This is not all. Supposing a member finds himself in legal difficulties, he can refer to the legal committee, who will look into his case, and if the matter be one interesting cyclists generally, they will take it in hand. In this way the railway companies have often been made to feel the influence of the Touring Club. Bicycles are carried on the railroads with their owners for a registration fee of 2 cents, but it was not until the companies had been fought tooth and nail that they abandoned their pretension to refuse guarantee in case of accident to the wheel during transport. Then the companies declined to take motor tricycles and quads, but after pressure they have just consented to allow of passengers being accompanied by any kind of motorcycle weighing less than 100 kilos. These are only a few cases in which the club has triumphed over the obstinacy of the railway companies.

The technical committee is another useful part of the club's organization. It comprises nearly fifty of the most eminent engineers and scientists. It has done a lot of good work in securing privileges for cyclists from the railways and government departments, and has to a large extent succeeded in breaking down the barriers of protection between France and the neighboring countries, since



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local roads, the state of the sign posts and the fixing of danger boards where necessary. They also make reports on all matters interesting to tourists to the chief delegate.

Each member receives a copy of a monthly review dealing with the work of the club and treating of touring questions, and this magazine is often of an extremely interesting character. The club also publishes guides and maps, and places at the disposal of members a whole mass of touring literature. It is here that we see one of the secrets of the Touring Club's success. While giving every facility for touring abroad, the aim of the club is more particularly to encourage touring in France, and show cyclists that in the valley of the Loire, the snow capped mountains of Savoy and Dauphiné and the picturesque historical cities of the south, France possesses as many interesting attractions as would be found in any other country. Tourists are advised to see their own country before traveling abroad, and thus create a current of pleasure traffic with districts which are particularly favored by nature and by the art of man. The club is helping forward this movement by the pub-

a member of the T. C. F. has only to present his card with a description of his bicycle to cross the frontier without paying import duties, the only formality required of him being to deliver up the paper or "passavent" on his leaving the country with his wheel.

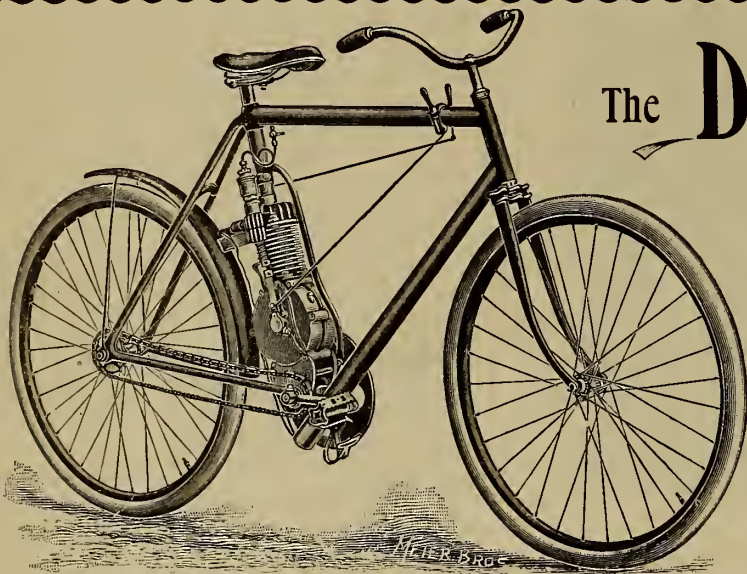
Another important work is the carrying out of road improvements by the granting of subsidies in cases where the local funds are not sufficient for the purpose, and where the roads are paved with granite sets, cycle paths are laid out alongside. There are many scores of miles of cycle paths in the neighborhood of Paris alone. Sign posts and danger posts have been erected all over the country, so that the tourist can almost go from one end of the country to the other without consulting the map, these posts being supplied by the club at the expense of donors, whose names are immortalized by being inscribed on the sign plates. Medical stations have also been established in lonely

places with all that is necessary for giving first aid to the wounded cyclist. A special fund has been created for the road menders, and relief is granted in all cases of necessity upon the recommendation of road surveyors. This is not only a philanthropic but a very useful work, since every road mender looks upon the cyclist as an item in the relief fund, and he is treated with respect accordingly, while the surveyors do what they can to facilitate traffic through their districts.

What is the financial situation of a club which has been able to accomplish all this useful work? During the past financial year the receipts amounted to \$179,481, and the expenses \$129,056, and the club has a reserve fund of \$43,000. The members' subscriptions totalled \$74,876, and the sale of guides and maps brought in \$11,200. On the expenditure side the monthly review accounted for \$29,400. The road menders' fund has 1,022 subscribers, and after distributing

\$6,000 in relief, there is a balance left of \$2,918, which has lately been increased by a donation of \$1,627.

Since the club came into existence there has been a great revival of the touring spirit in France. Indeed, at no time has it been stronger than at the present moment. The French cyclist is not, perhaps, what may be termed a hardened tourist, in the sense that he does not scorn every other means of conveyance but his bicycle. In this respect he has been spoilt by the railroad, which takes his bicycle for nothing and enables him to travel by rail to the most interesting touring grounds. Cyclists in other countries would no doubt like to be spoilt in the same way. The tourist can thus pick his ground and is encouraged to go farther afield, with the result that many a picturesque and isolated place, at one time utterly unknown, has now developed into a popular holiday resort. All this has been done by the Touring Club, through the medium of the bicycle, and having shown such a record of usefulness, there is little danger of the club going on the down grade, so long as it is managed on the present lines.



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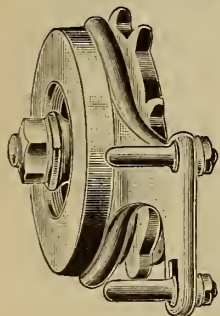
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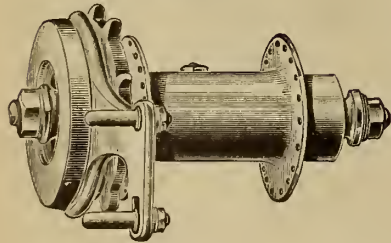
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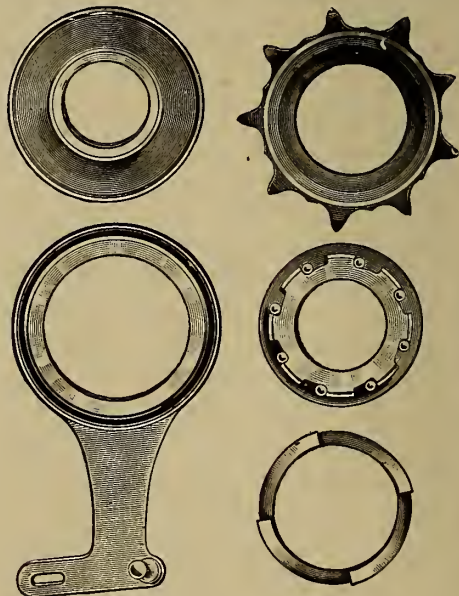
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THE MATTER WITH US

Ireland Trains a Telescope This way and Finds Many Faults and Some Good.

Now that the trade on these shores has practically solved the problem of "who struck Billy Patterson," the press abroad seems to think that the other cheek has been turned for smiting. The cycle press of all Europe takes a whack at the subject now and then, but that of Great Britain finds it a particular thorn in its side, and the cause is not far to seek, knowing the makeup of the animal.

Whether it is by wireless telegraphy or some other process of induction deponent saith not, but the Irish Cyclist has waved its blackthorn with the truly national hope that it will hit the first head that appears. Speaking of motors and bicycles, it says:

"And yet these two great industries are languishing to-day, and all on account of a defect whose very simplicity caused it to be overlooked. America has no roads, practically speaking, outside her cities. And we ascribe the decline of cycling and the stunted growth of automobilism to this omission. In the cycling boom large numbers of cycles were bought in America, but they were mostly used for street and boulevard riding, though a little touring may have been done by enthusiasts. The absence of good roads, however, hampered the manufacturers, and by depriving them of the necessary experience prevented development in many ways. very few properly equipped roadster bicycles have been turned out in America simply because the conditions of the roads make them unusable during the broken weather. This, perhaps, did not matter very much in the States, where the climate is usually dry and the number of rainy days is less than in many European countries. But when American makers set out to conquer foreign trade they did not understand this. So ignorant were they of the conditions which all the year cycling set up that it took years to impress them with the requirements of a roadster bicycle fit for use in England or Ireland. The wretched little wooden mudguards, the twine dress guards, the board hard saddles, the cheap single tube tires—all these things were absolutely wrong for riders who did long distances weekly over all classes of roads and under varying weather conditions. For pottering about the city and taking a little spin in the parks on favoring days, the American bicycle was all right; otherwise it was a failure. The makers have been accused of pigheadedness for not seeing the error. But we can quite understand the difficulty they had of discovering it, so different were the cycling habits in their own country to those in Europe. Had America good roads at that time, thousands of the people would have gone in for

touring and using the cycle on wet and fine days over long stretches of country roads. Their experience would have taught the American makers the real requirements, and it is highly probable that they would have turned out roadsters equal to ours. America has practically lost her English and Irish trade, and she may blame her bad roads for it. She is very much behind in automobilism, too, considering her enterprise, and she may also attribute this to her bad roads. With her splendid climate, enterprising manufacturers and enthusiastic people, America should have an immense cycling and motorizing population, but she has not."

Lamps and Their Light.

To so arrange the stock carried in a store that it shall serve, both from the standpoint of utility and profitmaking, is certainly a point to be aimed for by all wideawake dealers. A bright store is one of the best advertisements, and when the very thing that serves this purpose can be made to yield a direct as well as an indirect profit it is worthy of more than ordinary consideration.

In the gasoline lamp, which has taken its place in the commercial world, the bicycle dealer will find not only a means to advertise his store, because of the flood of light in which it will be bathed, but a profitable side line that is constantly demonstrating its merits. Like many new articles, the gasoline lamp has had to live down abortive attempts on the part of irresponsible or inexperienced parties.

One gallon of gasoline, costing about 10 cents, will run seventy or eighty hours, giving more light than a mammoth kerosene lamp, which burns a gallon of oil in eight or nine hours. In considering the pressure lamp, many things should be kept in mind. The matter of safety is first and most important, the matter of insurance next.

The number of pounds pressure necessary to make a lamp do its work has much to do with the safety of a lamp. Some lamps require forty-five to fifty pounds pressure, while the Halo, made by the Brilliant Gas Company, 42 State street, Chicago, Ill., works with five to ten pounds. In the matter of insurance, this is important, as some lamps and systems are barred by the underwriters, while others are only allowed by special permits at increased insurance rates. Lamps that have not been tested and reported upon favorably by the engineers of the National Board of Underswriters are not a good proposition for merchants to trifle with.

The Halo is particularly suitable for outdoor use, having 500 candle power. For house or other purposes where less light is suitable, the Brilliant, made by the same company, will give 100 candle power. Other candle powers can be had, as well as a wide selection in designs for various specific purposes.

In England members of the army are allowed two cents a mile when they use their bicycles on trips which would otherwise be taken by public conveyance.

"HAPPY JACK" KEEN DEAD

One of the "Grand Old Men" of Cycling Passes Away—His Notable Career.

The passing away on January 13 of John Keen, for many years known as Happy Jack, removes from cycling one of the oldest of old timers, and a man who in the racing of the early seventies was practically invincible. While Mr. Keen's work was chiefly confined to England, his fame was known to all the old guard of cycling, a finer exponent of pedaling a high bicycle never mounted the big wheel, and in all the years he followed cycle racing as a profession, he carried the reputation as one who always got up to win.

His first race was a half mile on October 9, 1869. The time was 2:42 1-5, and, as he put it, he had to race the whole of the way. From that time on he came to the front, and did much toward pushing the bicycle to the front as a pastime.

The unique position which he occupied in professional racing is best evidenced by the fact that the then governing body in September of 1879 permitted a series of three races between Keen, professional, and the equally renowned amateur champion, H. L. Cortis. The distances were 1, 5 and 20 miles, and the races roused immense enthusiasm and caused more excitement than any bicycle matches ever before. The first event of the series to be run off was the 20 miles, which was won by Cortis. The other two matches were won by Keen, who took his pace from Cortis and won at the finish. Cortis rode a 60-inch and Keen a 55-inch machine.

In the following October he came to this country, and again in 1881. In 1883 he again returned, riding chiefly against trotters in Springfield, Washington and New York.

Keen was one of the first of the class now known as small makers, but he never had much of a head for business.

What One Belt Withstood.

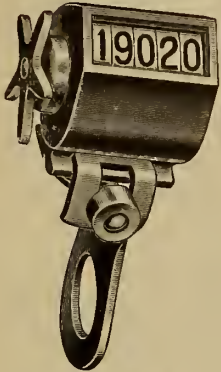
There must some little time pass before the question of power transmission on motor bicycles, as between belts and chains, can be settled to the entire satisfaction of all. At present both have ardent advocates, with the call on the belt, as it affords a means of transmission that gives a flexibility believed by many experienced in the matter as needed in small motors.

The Motor Cycle Manufacturing Company, of Brockton, Mass., has had wide experience both with chains and belts, and is now equipping a belt 11-16 inch wide by 7-16 thick. The belt is double thick and flat and is known as Indian tanned. When tested at the Massachusetts Institute of Technology, it is claimed this belt broke at 2,275 pounds, while an oak-tanned belt of the same cross section broke at 1,200 pounds. In selecting the leather for the belts only a small portion of a hide can be used; this, of course, keeps the cost up, but the result warrants the end.

Veeder Cyclometers

STAND ALONE.

10,000 Miles
and Repeat.



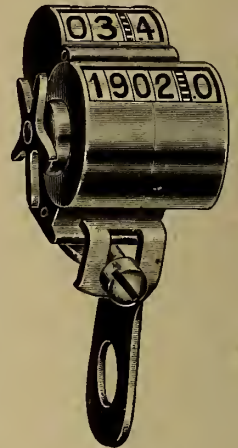
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and Trip.



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COUNTERS,
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Record	STAR BRIDGEPORT RECORD			
	BICYCLE PEDALS.			
Star	<p>A trial will convince you that B. G. I. PEDALS are <i>by far the best</i> you can buy. Made of the best steel, and carefully inspected. Simple in construction. Perfect alignment of bearings. Standard of excellence in style and finish.</p> <p>USE 1902 MODEL B. G. I. PEDALS.</p> <p>THE BRIDGEPORT GUN IMPLEMENT CO., 313-317 BROADWAY, NEW YORK.</p>			Record
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RACING

Australian advices just to hand give particulars of that cycling classic, the Australian Wheel Race, which on December 14 was won by that old American war horse, "Bill" Martin, and which proves to have been more successful than ever before. The three days' carnival attracted 66,000 people, 34,000 being present on the last day, when the gate amounted to \$6,535, a record in its way. Martin won the race itself, a two-mile handicap, by three lengths, sitting up. In all there were 148 starters, who were divided up into twelve heats and two semi-finals, the first semi-finals for seconds only, first two to start in final. The second semi-final for thirds only, first two to start in finals. Martin won his heat, the tenth, from scratch, with Sutherland (10 yards) hanging to his rear wheel, and Gudgeon (40 yards) five lengths back. Time, 4:33. Sixteen men qualified for the final, which was won by Martin in easy style; Middleton (160 yards), second by three lengths; Walker (40 yards), third two lengths away from Middleton; Smith (260 yards), fourth, two lengths from Walker, and Davies (180 yards), fifth. Time, 4:29 3-5.

Several days after the race considerable excitement was caused by the action of the stewards in deciding to hold an inquiry into the riding of some of the Australian competitors. They directed the Melbourne Bicycle Club to withhold the prize money, in accordance with the rule which specifies that "every competitor must endeavor to win his trial heat, as well as any final heat, and if the stewards be of opinion that he has not so endeavored they made disqualify him for 'stiff riding.'" After examining a number of riders the stewards, through Referee Gollan, announced that, after hearing all the evidence and carefully weighing it, they had discovered a most unsatisfactory state of affairs, but they had decided to order that the Australian prize money be paid over. The consensus of opinion—minus any common sense whatever—is that the stewards should not have waited till the meeting was over to announce the holding of an inquiry. They saw the race themselves, they had an extra number of umpires, and required nothing further to guide them if action was necessary.

Leander won an unsatisfactory fifteen mile motor paced race with Freeman and Rutz at the Second Regiment Armory track, Philadelphia, January 30. The three men got away well together and remained bunched for two miles when Freeman and Leander lost their pace. Before they could tack on again, Rutz had gained two laps. Freeman dropped out of the race after riding a few miles, but Leander stuck to the track in an endeavor to catch Rutz. In the eighth mile Rutz's wheel went wrong, and in the time consumed in getting a new mount Leander secured a lead of four laps. In the eleventh mile Rutz's pace slipped a belt and was

forced to retire. From this on he plugged on unpaced, Leander finishing sixteen laps to the good in 24:53 3-5.

The indoor cycle racing season in that armory wound up February 1. The attendance was small, owing to bad weather. There was one big race on the programme, in which Monroe, Freeman, Leander, Turville, Rutz and Mueller competed. The race was cut into three preliminary heats of three miles, the winners in each to compete in the grand final of five miles. Rutz and Monroe drew to ride the first three miles. Rutz won without an effort in 4:40 2-5. Leander and Turville were the riders in the second race. Leander won in 5:10 3-5. Freeman and Mueller met in the third heat and fought it out in true bulldog style, Freeman finally carrying off the honors in the time of 5:10 3-5. The three losers then met in a semi-final of five miles, which Monroe won in 8:12 4-5. The final event proved to be an exciting contest, the riders fighting every inch of the way. Rutz proved the speediest and crossed the tape five yards ahead of Freeman, who beat out Leander for the place. Time, 7:50. McEachern gave an exhibition mile behind pace, covering the distance in the fast time of 1:29 1-5.

The N. C. A. might well consider the system that is in vogue in Australia—that of permitting all heat winners to start in finals, and confining semi-finals to second and third place men only. It compels every man to

ride to win, and not merely to place himself, and avoids the incongruity of heat winners being defeated in semi-finals by men whom they had previously defeated.

Bookmaking is now a recognized feature of Australian race meetings. The bookmakers are required to be registered by the League of Victorian Wheelmen and to wear a badge denoting their occupation. Some seventy-five of them are duly registered, and seem to do a good business despite the injunction "never bet on anything that can talk."

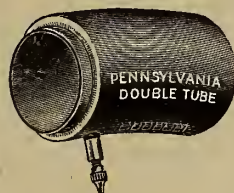
William S. Fenn will make his debut this year as a candidate for honors at middle distance behind pace. Along with Hunter, Frairie and Nelson, Fenn will appear under the wing of F. Ed. Spooner.

Cables to this country have reported that "Bill" Martin would return to his old home in Massachusetts, but in an interview with The Australian Cyclist he states that he will remain in Melbourne and run a hotel which bears his name. He also denies having laid any wagers on himself in the Austral race.

F. W. Voigt, the Vailsburg track manager, has leased the New Haven Coliseum. He will run it in conjunction with the New Jersey track the coming season, holding weekly meets on both tracks.

Belgium now has a regular company of soldier cyclists, patterned after the French

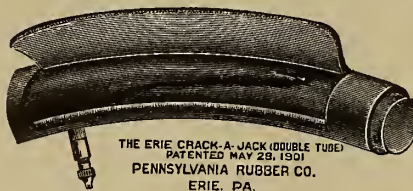
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GEER; HIS TROUBLES

His Experiences With Motocycles and the Suggestions They Convey to Makers.

Editor The Bicycling World:

Responding to Mr. S. F. Heath's suggestion, as published in your journal of the 23d inst., inviting a bicycle agent to present his views on marketing motocycles. The writer belongs to this class, having served his apprenticeship as office boy, factory hand, salesman, instructor, collector, professional trick rider, retail store manager, traveling man and proprietor. I introduced the first steam vehicle in St. Louis. Another party bought a carload one year later and secured the agency, shutting me out. Still another firm opened their doors with a steam vehicle and a third one followed, all firms fitting out fine stores and storage rooms.

I realized immediately I must drop bicycles or automobiles. Having a fine bicycle business I dropped the automobile, sold my automobiles, one steam and one gasoline, and immediately took up motocycles, purchasing a motocycle. I had trouble with automobiles: sold three. Expected to have some trouble with motocycles, but by devoting myself to the subject, expected to overcome the difficulties, having some experience gained from automobiles to start with. Have a fine shop thoroughly equipped with lathe, emery wheels, drill presses, vulcanizer, brazier, gas engine, etc., and seven good mechanics with some experience in automobile repair work.

Purchased "Motor Cycles and How to Manage Them," "The Gas Engine Handbook," and a few others, studied them myself and loaned them to any man in the shop who wanted to study the subject. I subscribe to most all bicycle and automobile journals and make a practice to hand each one to the shop force every week, so I have the advantage of intelligent, interested mechanics.

Well, the bicycle arrived. In the midst of an admiring crowd it was mounted. It refused. We good naturedly took the jeers and jests of the crowd. After dark we tried again. Finally it started; ran about six miles an hour. The writer started home on it proud as a peacock; it stuck. Worked on it two months with varying success. The president of the company dropped in one day on his way to Hot Springs, Ark. He said: "Send the engine back; it is defective." They sent another, worse than the first; crank case leaked oil. We fixed this. Spark plug was too small for its hole; leaked, spoiled compression. We fixed it and fixed a good many other things, but received no satisfaction. Gave it up in disgust. Did not sell one. My reputation was worth more to me. Sold it for \$75; lost \$75 on purchase price, also expressage and mechanics' time, about \$100 more.

Purchased a motor tricycle, another make. It was fast, safe and fairly simple and ran

fine for about thirty days; then the clutch became deranged. Bought some new parts, for which we paid a good price; two weeks' time doing the work and waiting for parts. Again we were off. Next, compensating gear—next! next! always something.

Bought another tricycle—another make with French engine; cost nearly \$400; 3¼ horse power, water-cooled head; machine had fine reputation. The second day the rear wheel came off; result, broken head lugs, bent rear axle, broken compensating gear, broken aluminum gear case and other damage. Of course, it was not the factory's fault; they had tested it thoroughly; never heard of such a case before; I must have "monkeyed" with it. Well, we repaired it and re-enameled it. Next, rear axle supporting bar bent; straightened it, but did not enamel it this time; it bent again, we straightened it again; it will never bend again; I fixed that. Their engine adjustment eccentrics were too light; motor broke loose, knocked a few teeth out of the bronze gear wheel on the axle. Put the teeth in again, made heavier adjusters. The tires were too light; new ones, extra heavy clincher.

You can see I had some trouble. I am not disgusted, I am disappointed. Have spent about \$3,000 on automobiles and motocycles. I lately sold one motocycle, and it is giving trouble already. I must waste my time in making it go, for my customer paid me \$275 in United States money, and I have a business man's reputation to sustain. I suppose other bicycle men have had the same experience; possibly they are not all good natured. The manufacturers can hardly blame a bicycle man for not taking up agencies if they do not deliver the goods. There are very few bicycle men who can afford to buy a motocycle of every make and find out which one gives satisfaction.

Why should not we say, "Go get a reputation?" I say, "Show me." I have the price and am ready, yes, anxious to spend it for a good machine. It is the manufacturer's business to show me that it is a good one. I am a hustling, energetic, progressive bicycle man, and have proven it by buying and trying motocycles. My machines were not kept in a glass case, but put on the road and tested, and I cannot afford to sell a motocycle that I cannot run myself. I will buy if he shows me, but I want no more "gold bricks."

And another thing, the automobile manufacturers found out that it is more to their interests to appoint agents than to sell direct, and it is to the advantage of the purchaser to purchase a motocycle from a local agent who understands the machine and has facilities to make repairs when needed.

A catalogue and circular letter just received states as follows: "In event of its being inconvenient for you to take the agency, and we have no agent in your district, we would allow you to purchase at agent's terms, which is 33 per cent. off list, making it \$117.25 net. We give addi-

tional 5 per cent. when all cash accompanies the order." This circular letter is evidently sent with all requests for catalogues, and I consider it very poor policy. Why not send the correspondent a catalogue and write the bicycle agent desired for a representative a personal letter quoting him agents' price and asking him to take up the inquiry. He would in most cases be willing to make a profit on no investment, and possibly would be interested enough to take the agency and purchase for himself when he sees the public are interested. It would be a poor business man who would sit still in the face of an opportunity.

Mr. Heath and the Wisconsin Wheel Works, will not, I believe, lose anything by their policy. I am sure that it has impressed me more than a good deal of advertising would, especially as the W. W. W. are pretty familiar through their constant and business-like advertising.

HARRY R. GEER, St. Louis, Mo.

Marsh's Mica Plug.

One of the parts of a motocycle that has given considerable annoyance at times to their users is the insulated core of the spark plug. Heretofore it has been the practice in the majority of plugs to use porcelain for this purpose, but as this is so brittle in general handling, and liable to crack under the intense heat of the explosions, it has caused the thinkers to look about for something to take its place that would remove these objections.

It is generally known that mica is an excellent insulator, having the advantage of considerable flexibility, and that it will stand high heats. Because of these qualities it has been extensively used in general electrical work. With these tried and proved conditions its use as the insulated core for spark plugs can be looked forward to with more than average interest.

It is with this clear understanding that the Motor Cycle Manufacturing Company, of Brockton, Mass., are making plugs with carefully selected mica and guarantees them for one year. It is obvious that the core can be taken out and reassembled as many times as one may think necessary for cleaning, without danger of cracking or breaking. Another feature that is not generally understood is that when porcelain is used there must also be asbestos packing at the shoulder of the core to prevent leaking, and this requires considerable experience and care in getting it just right. When mica is used its flexibility takes care of the entire matter and the annoyance and bother of packing are done away with.

The Retail Record.

Burlington, Vt.—Wilmot E. Mayhew, moved to Carr Block.

Columbus, Miss.—J. C. Broyles, removed to Birmingham, Ala.

Worcester, Mass.—Charles E. Stebbins, heavy damage by fire.

Hamilton, O.—Neiderman Cycle Co., purchased business of Sherring & Cochran.

Washington, D. C.—P. J. Mendell, 1,728 Seventh street, N. E., slight fire damage.

The Week's Patents.

691,788.—Combined Air and Explosive Engine. Robert Lundell, New York, N. Y., assignor of one-half to Charles J. Kintner, New York, N. Y. Filed March 29, 1900. Serial No. 10,634. (No model).

Claim.—1. A compound engine having a high pressure and a low pressure cylinder and pistons located therein, said cylinders being provided with gas ports for admitting an explosive gas against the full free faces of the pistons and additional ports for admitting a gas under pressure against the other faces thereof, the cylinders being so interconnected that the gas under pressure as it leaves one of them is admitted at lower pressure as it enters the other, substantially as described.

691,805.—Water-Cycle. Sylvester R. Perry, Worcester, Mass. Filed February 16, 1901. Serial No. 47,656. (No model).

Claim.—1. In a water-cycle, the combination, with a float provided with a paddle wheel, of a friction pulley for operating the wheel, two standards adjacent to the pulley, the lower end of each of which is screw threaded and provided with nuts and the upper end is slotted, a brace for each standard, the upper end of which is provided with a hooked clamp and an eccentric lever for causing the clamp to engage with the frame of a bicycle, substantially as described.

691,826.—Winter Velocipede. Benjamin C. Trudelle, Bay City, Mich. Filed June 21, 1901. Serial No. 65,417. (No model).

Claim.—In a velocipede the combination with a gear wheel rigidly mounted on the crank shaft; of a pair of sockets secured to the frame, one in front and one in the rear of the crank hanger; a bracket removably secured to either of said sockets interchangeably; a vertically movable arm pivoted to the lower end of said bracket; a train of gears carried by said bracket and arm, the first gear of said train being mounted at the pivotal junction of the bracket and arm, and meshing with the crank shaft wheel, and the last gear of said train being mounted at the outer end of the arm and operating a spiked driving wheel; an upwardly extending adjusting rod yieldingly fixed at its lower end to the end of said vertically movable arm, and secured at its upper end to the velocipede frame, substantially as described and for the purposes set forth.

691,830.—Bicycle Handle Bar. William N. Whitely and William N. Whitely, Jr., Springfield, Ohio. Filed January 24, 1900. Serial No. 2,536. (No model).

Claim.—1. In a vertically adjustable divided handle bar construction, a handle bar post having integral therewith a head, two vertically adjustable handle bars pivoted thereon on a common center, corrugations on the face of said head around said pivot center for one of the bars, corresponding corrugations on one of said bars to engage the head corrugations and means for clamping said bars and head together, a clamping rod passing through an orifice common to both head and post, independent of said bars and wholly to one side thereof and engaging a clamping device located at the lower end of said post, whereby said post may be vertically adjusted within the steering fork tube for the purpose shown and described.

691,864.—Bicycle Luggage Carrier. Alfred G. Jackson, Brisbane, Queensland. Filed April 22, 1901. Serial No. 56,841. (No model).

Claim.—1. A device of this character comprising an attaching clamp, a spring band having one end pivotally connected to the clamp and the other end opposite the con-

nection but free, a link surrounding the free and pivoted ends of the band, and means carried by the link for forcing the free end into close proximity to the pivoted end substantially as described.

691,906.—Bicycle Propulsion. William T. Johnson, Brooklyn, N. Y. Filed December 29, 1897. Renewed June 23, 1900. Serial No. 21,379. (No model).

Claim.—1. In a bicycle, a cam fixed upon the crank shaft, and an eccentric fixed upon the driven wheel axle, in combination with a rod arranged to reciprocate in a fixed line, said rod being connected with the cam at one end, and bearing a pivoted eccentric ring at the other, substantially as shown and described.

691,964.—Canopy for Tricycles, etc.—Barney J. Olding, St. Henry, Ohio. Filed August 28, 1901. Serial No. 73,616. (No model).

Claim.—1. In a canopy, the combination of opposite frame bars having a flexible covering secured thereto and provided near their extremities with eyes, inclined main and auxiliary supporting rods having their upper ends movably attached to the eyes respectively of said frame bars and converging toward their lower extremities, the auxiliary supporting rods having their lower ends pivotally connected to the main supporting rods, and the main supporting rods being extended downward beyond said pivotal points to form uprights adapted to receive securing devices, and spreader rods movably attached at one end to the eyes of one frame bar and having terminal hooks for removable engagement with the eyes of the other frame bar.

692,036.—Hand Propelled Chair. Norton A. Sawyer, Lowestoft, England. Filed September 23, 1901. Serial No. 76,190. (No model).

Claim.—1. In a hand propelled chair the combination of three upright members arranged parallel to each other in an approximately vertical plane common to all the members, cross members connecting the upright members, two approximately horizontal members extending from the lower ends of the two outside upright members, a seat upon these members, downwardly directed extensions at the free ends of the horizontal members, a footboard secured to these extensions, upwardly and outwardly curved members secured one to each of the outside upright members, a wheel support secured at the free end of each outwardly curved member, a road wheel mounted in each support, a brace connecting the lower ends of the two supports driving gear mounted at the upper end of each support and connected with the road wheel of each support and a steering wheel mounted at the opposite end of the chair to the side wheel supports as set forth.

692,077.—Continuously Variable Speed Gear. Archibald Sharp, London, England. Filed July 9, 1901. Serial No. 67,627. (No model).

Claim.—1. A variable speed mechanism for a cycle for transmitting rotary motion between two parallel shafts, one of which is movably mounted with relation to the other, comprising such shafts, a ratchet drive ring concentric with one of the said shafts, a wheel concentric with the other of the said shafts, a number of equal drive links each jointed at one end to the said drive ring, a number of toothed drive shoes jointed to the other ends of the said drive links and each engaging with the aforesaid wheel by means of a free wheel driving clutch, means for varying the distance between said shafts, and springs projecting substantially parallel with said shoes and in front and rear thereof.

692,078.—Cycle. Archibald Sharp, London, England. Filed October 26, 1901. Serial No. 80,142. (No model).

Claim.—1. The combination with the center tube and the steering tube movable one within the other, of a distance tube fitting loosely within the steering tube, means connected to the upper end of said distance tube and embracing the center tube, an airtight rolling packing mitten interposed between the distance tube and the center tube, means securing one end of the said mitten securely to the distance tube and means securing the other end of said mitten to the center tube, all substantially as shown and described.

692,094.—Muffler for Explosive Engines. Christian F. Weeber, Albany, N. Y. Filed September 7, 1901. Serial No. 74,631. (No model).

Claim.—1. In a muffler to an explosive engine, a shell or frame forming a chamber inclosing pipes and tubes; a pipe partly inclosed in said chamber, with one end adapted to be attached to the exhaust pipe of the engine, and the other end of said pipe extending to or near the center of said chamber; tubes connecting with said pipe to near the end of said chamber nearest the engine, and adapted to conduct said exhaust from said pipe into the end of the chamber nearest the engine; another pipe extending from near the center of said chamber through the end of said chamber farthest from the exhaust pipe; tubes connecting with the last named pipe at or near the end nearest the center of said chamber and extending parallel with said pipe to near the extreme end of said chamber farthest from the engine, and adapted to conduct said exhaust from the said chamber to said pipe, and said last named pipe adapted to conduct said exhaust from said last named tubes to the outside of said chamber, substantially as described and for the purposes set forth.

692,131.—Coasting and Brake Mechanism. Godemir J. Gastonguay, Hartford, Conn. Filed September 6, 1900. Serial No. 29,186. (No model).

Claim.—1. In a vehicle, in combination, a tubular outer hub, a tubular inner hub formed in sections, said sections being supported one on the other, a clutch located between the two hubs, one of the clutch parts being secured to the outer hub and another part to a section of the inner hub, a loose clutch part mounted between the two sections of the clutch, a cam surface and an engaging pin arranged to slide the loose clutch part, a gear wheel fast to one hub section, and a brake attached to the other section.

692,135.—Ball Bearing. Friedrich Hansen, Husum, Germany. Filed February 28, 1901. Serial No. 49,294. (No model).

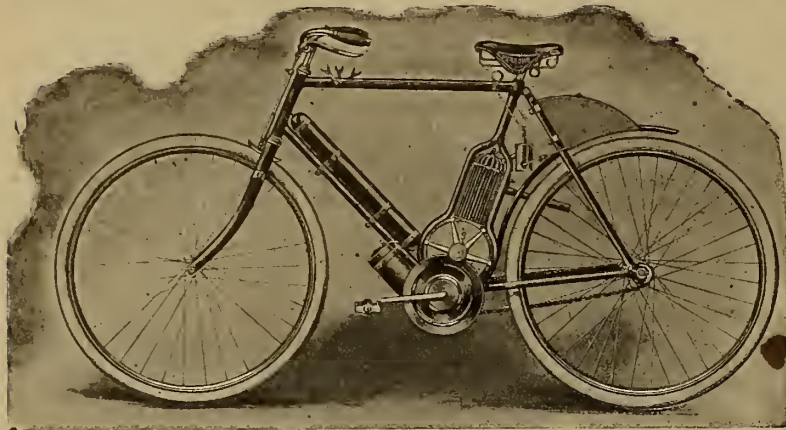
Claim.—In a device of the character described, an axle having a square end, a cone carried by the axle, the outer face of said cone having a series of radial grooves formed therein extending down to the crank axle, a crank, radial ribs on the inner face thereof adapted to engage said radial grooves in the cone, said crank having a square aperture formed therein to receive said square end of the axle, substantially as described.

692,218.—Free Piston Explosive Engine. Willis A. Swan, Providence, R. I. Filed August 31, 1900. Serial No. 28,681. (No model).

Claim.—1. In a gas engine, the combination of a cylinder, a piston, mechanisms supplying air and oil to said cylinder, the air being under pressure, whereby an initial movement may be given to the piston by the pressure of said air before the explosion, mechanism supplying the air, under pressure, to return the piston, and an independent motor operating the air and oil supplying mechanism.

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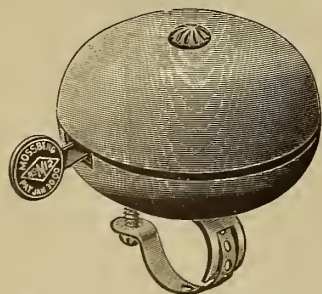
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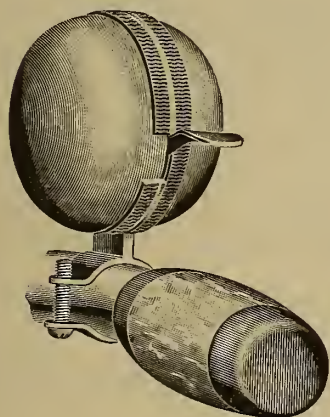
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BEVIN BROS. MFG. CO.,
East Hampton, Conn.

ESTABLISHED 1832.

Long Cranks and High Gears.

Editor Bicycling World:

I would like to add my experience with long cranks and high gears to that of the Irish Cyclist, quoted in your issue of January 16. For two years past I have ridden habitually, a 32 lb. Racycle Pacemaker, with 124, 140 and 160 gears, usually with 7-inch cranks, but I have also employed extenders, making the cranks 8-inches, which enable me, of course, to ride the same gears with less effort. The 140 gear with 8-inch cranks is my favorite mount.

I am forty-six years old, and can without trouble maintain a pace of fifteen miles per hour for two or three hours, unpaced. I have never had any training, and began riding but four years ago. That the combination of long cranks and high gears are well suited to many men, my experience and the several Pacific Coast records which I hold serve to show, as follows:

1. Long distance road record for Pacific Coast, Claremont, Cal., to Highland Springs (125 miles north of San Francisco) and return, about 1,290 miles, in thirteen days (124 gear), strictly unpaced all the way. This trip included all sorts of roads, the crossing of fourteen mountains, a walk of from two to eight miles up each, and part way down; wading rivers four times; bucking head winds of forty miles an hour velocity, so that four miles an hour was all I could do, and a fellow with 74 gear came into Salinas the same night and said he had averaged only four miles an hour all the afternoon.

2. Pacific Coast road record, Los Angeles to Oakland, about 460 miles, in three days, twenty hours (with Allen H. Nye, of Monrovia). No pacing to amount to anything, 101 gear. As far as my sensations are concerned, I worked just as hard with 101 as I did with 124 gear.

3. Twenty-four hour record for Southern California, 210 miles, 124 gear, strictly unpaced.

4. Ontario, Cal.; Euclid avenue cycle path record, 5.4 miles in 25¼ minutes, unpaced, 124 gear. This avenue has a rise of 907 feet in six miles, is steadily up grade, and gradually increases in steepness, most of all just at the head of the avenue.

HENRY H. WHEELER, Pomona, Cal.

Upon receipt of 35 cents in stamps we will mail one dozen of the MAGIC as a sample trial to any part of U. S. A. Ask your jobber for it.



HAS A POINT ONLY ⅛ IN. DIAMETER.

Bicycle salesmen wanted to handle the MAGIC as a side line.

THE MAGIC REPAIR TUBE CO., 248 LARRABEE ST., CHICAGO, ILL.

**CINCH COASTER
BRAKE.**
GUARANTEED
SELF-RELEASING—NO SQUEAKING.

THE OAK



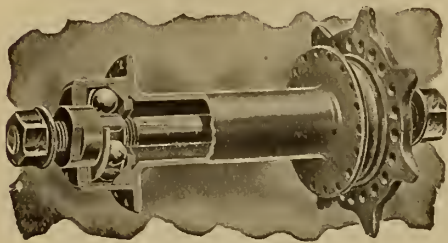
Not
to know it
is
to admit
yourself
slow
to recognize
and
become
acquainted
with
the good things
that
go to help
your
business.

WANT QUOTATIONS?

Newark Cycle Specialty Co.,
NEWARK, N. J.

CHAMPION HUBS

Write for Complete Description and Prices.



(LIGHT WEIGHT RACING MODEL.)

ALSO REGULAR ROAD HUBS.

Worthy of Their Name.

VULCAN HUBS.

Cheap but Good and Well Worth Their Price.

I. A. WESTON CO., Syracuse, N. Y.
Selling Agents, C. J. IVEN & CO., Rochester, N. Y.

HIGH GRADE

wheels must have the
best equipments.

There is nothing that gives more value for
the money than the use of the

MORSE TWIN ROLLER CHAIN



NOISELESS IN MUD, WATER OR
DUST AND ALWAYS EASY RUNNING.

The only chain having Frictionless
Rocker Joints. Insist on having the
Morse Twin Roller. Fits regular
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A MOTOR BICYCLE for \$2.50 per week.
An automobile for \$12.50 per week. Send
stamp for particulars. Automobile and Motor-Bi
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FOR SALE—About 21,000 feet best Mannes-
man's Imported Tubing, 5-8 in., 3-4 in., 1-3-16
in., 7-8 in., 1-5-16 in., and 1 in. 16, 18, 20, and 22
guage at 4 1-2 cents per foot, as long as it lasts.
Estate of JOHN MC CLAVE, 604 West 22nd St. N.
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FOR SALE—A Bicycle and Phonograph busi-
ness in a town of 9000. Centrally located,
established 8 years, and a large trade. A well
equipped repair department pays all expenses.
Present stock of bicycles, tools, enamelling oven
etc. about \$1,000. For information address;
A. W. HOLMES, Box 147, Salem, Mass.

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WRITE US FOR PRICES.

THE STANDARD WELDING CO.
CLEVELAND, OHIO

Century Cycles

couldn't be better.

MILWAUKEE CYCLE CO., Milwaukee, Wis.

NEVERLEAK

STOPS LARGE PUNCTURES.

This is the only fluid that can be legally used in pneumatic
tires. Suits now pending.

BUFFALO SPECIALTY MFG. CO.,
Buffalo, N. Y.

THE ARMSTRONG "A" CRANK HANGER



is conceded by competent judges to be the
most perfect in point of design, mechanical
construction, finish and materials used,
that it is possible to produce. Made in
one grade only, the highest. Handsome
in appearance; simple in construction; easy
and positive adjustment. We make the
most complete line of bicycle frame fit-
tings and crank hangers on the market.
Our 1902 prices are low. Write for them.

ARMSTRONG BROS. TOOL CO., Chicago.

HAND AND FOOT PUMPS,

Oilers, Repair Tools,
Valves, Name-plates, etc.

Spelter Solder

Sheet Brass,
Brass Wire and Rods.

SPECIALTIES to order
MADE OF BRASS.

SCOVILL MFG. CO.

Factories: Waterbury, Conn.
Depots: 210 Lake St., Chicago.
421 Broome St., New York

IDEAL HANDLE BARS

The Standard Bars of America

Get our new prices on bars and extensions for 1902 and
you will be agreeably surprised. Electros for the asking.

IDEAL PLATING CO., 3 Appleton St., Boston, Mass.

THE CROSBY COMPANY,

BUFFALO, N. Y.,

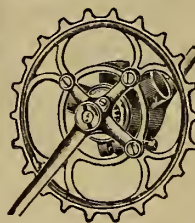
Sheet Metal Stamping.

The Admiral

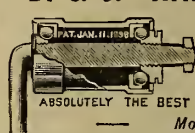
THE ONLY LAMP WHICH BURNS
EITHER OIL OR GAS.

...Made by...

THE ADMIRAL LAMP CO., - Marysville, Ohio.



"D. & J." HANGERS



FOR

Single,
Tandem,
Triplet,
Quad and
Motor Cycles.

ABSOLUTELY THE BEST
Lightest, Nearest Dust Proof, and
Easiest Running Hanger in the World.
Park City Mfg. Co., Inc., Chicago

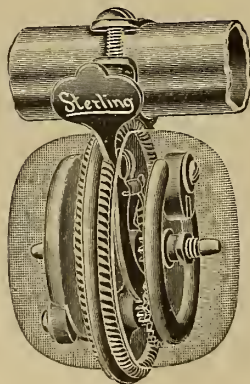
Sterling Continuous

NON-WINDING.

SIMPLE, COMPACT,
DURABLE.

EVERY BELL GUARANTEED.

FOR SALE BY THE WHOLESALE HARDWARE AND
SPORTING GOOD DEALERS,



(PATENT PENDING.)

Ringling Chime.

NON-REVOLVING.

Clear, Loud, Penetrating
Alarm.

N. N. HILL BRASS CO., Sole
Manufacturers
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SALESROOMS: 84-86 Chambers St., NEW YORK
45 Pearl St. BOSTON.

The Bicycling World

AND MOTOCYCLE REVIEW.

In which is incorporated "The Wheel and Cycling Trade Review" and the "American Cyclist."

Volume XLIV.

New York, U. S. A., Thursday, February 13, 1902.

No. 20

NO NEW YORK SHOW

Not Even a Local one now Possible—Causes That led to the Decision.

It is now safe to say that there will be no cycle show, local or otherwise, in New York this season.

The newly organized Metropole Cycling Club, which includes nearly all of the more prominent tradespeople in the metropolitan district, and which undertook to settle the question, has decided adversely to the suggestion.

The decision was reached at a special meeting called for the purpose on Thursday evening last. The committee which had previously been appointed to canvass the local trade reported a conflict of opinion. Some dealers favored a show, and promised to support it; others favored it, but would not assure support, while still others were opposed to a show in any form. These conflicting views, coupled with the belief that, as a local show probably would be held in a smaller hall, and not in Madison Square Garden or other big exhibition building, as heretofore, decided the committee to report unfavorably. They feared that the transition from a large hall to a small one would create false and undesirable impressions in the public mind. The club itself shared this view, and the committee's recommendation was accordingly adopted.

By a man prominently identified with previous shows it is stated that a national show would have been held this season, as usual, but for a difference of opinion between the management of Madison Square Garden and certain other interested people. The latter desired that the show include stage attractions of a cycling nature, but the Garden management would not agree, and the project fell through.

"After" the Fixem.

The Buffalo (N. Y.) Cycle Specialty Co. are still on the scent of infringers of their Never-leak tire fluid patents. The Fixem Mfg. Co., of Pawtucket, R. I., is the latest concern against which they have instituted proceedings charging infringement.

Two Good Men Gone.

Francis A. Pratt, for many years president of the Pratt & Whitney Co., of Hartford, Conn., died suddenly of apoplexy on the morning of January 10, after two years of failing health. He was born in Woodstock, Vt., in 1827, and entered the machinists' trade at the age of fifteen years. With Amos Whitney, in 1861, Mr. Pratt founded the firm which grew into the great manufacturing concern of Pratt & Whitney, whose machines and tools have been so extensively used in the production of bicycles. Two years ago he retired from the presidency.

Mr. Pratt was a charter member of the American Society of Mechanical Engineers. His widow, one daughter, Mrs. Carrie L. Spaulding, and one son, Francis C. Pratt, secretary of the company which took over the business of the Pratt & Whitney concern, survive him.

John B. Varick, the head of the John B. Varick Co., Manchester, N. H., who are jobbers in both hardware and cycles, died on Saturday last. He was aged seventy years.

O'Toole and Murphy Cry Quits.

George J. O'Toole and Joseph M. Murphy, formerly copartners in the Hubbell Bicycle Supply Co., Toledo, O., have filed a petition in bankruptcy in the United States District Court. They schedule no personal liabilities, and the petition is peculiar in that it fails to give the amount of the joint debts, but says that the accounts were placed in the hands of Joseph P. Hanley, and that he refuses to give them up. They list assets amounting to \$542.75, and claim exemptions amounting to \$350.

Protests Against Installment Act.

On February 5 there appeared before the General Laws Committee of the New York Assembly at Albany a large delegation of merchants and manufacturers, from New York, Albany, Buffalo and other cities, to oppose the Ulmann bill licensing instalment dealers. George N. Pierce, of the George N. Pierce Co., of Buffalo, said he saw no reason why dealers should be compelled to pay \$1,000 for the privilege of selling their goods.

ERIE WILL BE LOSER

Pennsylvania Rubber Co. to Remove to Jeannette—Big Plant Being Made Ready.

The Pennsylvania Rubber Co. is preparing to literally "spread itself." But not in its present location, Erie, Pa.

Jeannette, in that State, will be its habitat before the summer will have spent itself, and the removal will carry with it an enlargement of plant and facilities that will make the company one of the largest rubber working concerns in the country, the plant at Jeannette covering some twenty acres. When completed it will give employment to more than one thousand hands.

The main building will be 600x400 feet, and will cost \$100,000. The plans are already drawn, and work commenced on the new site. The factory will be, of course, equipped with the latest and most improved machinery.

Their present quarters, the Pennsylvania people say, do not begin to enable them to handle their business. They rate it a misfortune that they did not move last year. It is expected that the removal will occur previous to September 1 next. The capital of the company, which was recently increased from \$150,000 to \$750,000, will probably be made a round million before that date.

The personnel of the company is as follows: Herbert Du Puy, president; F. A. Wilcox, vice-president and general manager; H. A. Palmer, secretary; T. R. Palmer, general superintendent; C. F. U. Kelly, manager of sales department; George W. Shively, watch dog of the treasury.

The Pennsylvania people are making a high grade as well as a medium priced quality of goods. Their removal and enlargement, they say, will cause no alteration of the policy. They do not mean to deal with cheap tires or cheap productions of any kind.

Wyoma Revises Prices.

The Reading (Pa.) Automobile & Gear Co. has revised the lists of its Wyoma coaster brakes—the "ones that have neither balls nor fibre." The new figures are: Universal, \$4; Detachable, \$3.

BASSETT'S SCALP SAVED

New York Surrenders and Averts Bitter Fight—What was Done by L. A. W. Assembly—Howell Chosen President

Torrington, Conn., Feb. 12.—Until the National Assembly of the League of American Wheelmen was called together in annual session to-day a rare fight was in prospect. New York was after Secretary Bassett's scalp, and Massachusetts was determined to save it. It is not wholly a secret that the delegates of both divisions had held meetings to shape the best plan of attack and defence.

But a few days since the New Yorkers, in order to get hold of the secretaryship, which they were anxious to remove to New York, baited a hook with the presidency and diplomatically dangled it before Bassett. Bassett, however, refused to nibble. It was the secretaryship or nothing for him, and he was resolutely backed up by his Division. It is not so well known, but it is nevertheless a fact that the Bay State men were so exercised over the state of affairs that secession had not only been broached, but been discussed.

When the warring factions reached Torrington last night, however, oil was poured on the troubled waters, and when the meeting convened this morning peace reigned. Bassett had saved his scalp and his office, and is now not only secretary but treasurer as well, to-day's meeting having abolished the office of treasurer and consolidated it with that of secretary.

To celebrate his victory and as evidence of his loyalty and good will toward the organization, Secretary Bassett relieved the League of a debt of \$1,200 which is owing him.

The other officers elected to-day were as follows: President, W. A. Howell, Rockville, Conn.; first vice-president, Milo M. Belden, Jr., New York; second vice-president, H. L. Perkins, Providence, R. I.; auditor, Clarence W. Small, Portland, Me.

As far as attendance went, to-day's meeting was but a shadow of previous assemblies, but twenty-seven delegates, representing twelve States, being present. In addition to those named the following were in evidence: George C. Pennell, W. M. Meserole, J. F. Clark, J. B. Thompson and C. J. Obermayer, of New York; George A. Perkins, Aaron Wolfson, J. B. Seward, J. C. Kerrison, of Massachusetts; J. C. Tattersall and H. W. Knight, of New Jersey; George M. Schell, of Pennsylvania; E. H. Wilkins, O. H. Hammond and W. N. Smith, of Connecticut, and Charles I. Harrison, of District of Columbia.

The morning session was, as usual, devoted to the reading of annual reports. It cannot be said that any of them gave cause for enthusiasm. In several instances the efforts of the officers and committees to prove that

they had done something during the year were amazing, to put it mildly.

H. S. Earle, the Michigan beauty who has played president for the past year, made a valorous defence of himself. The chief points of the defence seemed to be the number of miles he had traveled since he had been an officeholder. He also made the statement that during his administration the League had been practically freed from debt. No one chuckled, not even when later Secretary Bassett reported \$1,200 due to him alone. The membership was reported as 10,529, as against 24,328 at this time last year.

Earle's report fairly bristled with personal pronouns. In the paragraph of twenty-six printed lines referring to the so-called "Good Roads Train," they appear seventeen times. In sixteen lines dealing with the lack of publicity which the League has been obtaining, he uses twelve of them, in which he excuses himself in this weak fashion:

"I have not given the press half the news that I should have did they place it in the proper department. I do not care to have my name appear in the sporting columns. I have no associates in the slugging business and I am willing to acknowledge that I am not even 'next' to any race horse's chances, so that while I would feel honored in associating with a good, upright working horse that keeps good company and votes and prays for good roads I do not want to and I won't with the kind that goes or does not go which way is best for its owner to drive."

He described the League as having "no respiration or no temperature or pulse; there is a slight tremor about the heart, which is headquarters."

The effort to remodel and put new life into the League took the form of a Massachusetts proposition that the division system of organization be abandoned, and the consulate or local organization plan be substituted therefor. Under the Massachusetts idea the national officers would be in control. New York, however, stood for the division idea, and after much discussion the motion was permitted to die by being laid on the table.

The delegates were entertained at dinner in the Torrington City Hall in the evening. They were addressed by several local and State officials.

The Old Guard Eats.

The Boston Bicycle Club, the first in the country, ate its twenty-fourth annual dinner on Saturday last. "Papa" Weston, "Ned" Hodges, "Billy" Everett, "Doc" Kendall, "Joe" Dean and nearly all of the genuine old guard were there.

Kelsey Gathers in one More.

The Kelsey Co., Buffalo, N. Y., have purchased the entire stock and good will of the Buffalo Cycle Components Co., of that city. This is the third jobbing house which the Kelsey people have absorbed in a little more than one year.

LEADING EXPORTING NATION

United States Still Holds the Premier Position—Apparent Loss Explained.

While bicycles did not help in the maintenance, the United States maintained its position as the leading exporting nation in the calendar year 1901. The figures of the Treasury Bureau of Statistics, just published, show the exports of each of the principal countries of the world at the latest available date, and clearly indicate that the exports of the United States were during the year larger than those of any other nation.

While the total for the full calendar year is only shown in the case of a few of the more important nations, the monthly average for the portion of the year for which figures are available is shown in the case of practically every country. This statement shows that the average monthly exportations in the year 1901 were: United States, \$119,840,333; United Kingdom, \$113,753,987; Germany, \$90,242,000; France, \$66,929,329; Netherlands, \$56,790,923; Austria-Hungary, \$32,012,746, and Belgium, \$28,678,729.

For the full calendar year figures of the United States and the United Kingdom are available. They show: United States, \$1,438,083,000; United Kingdom, \$1,365,047,843. The exports of the United States thus exceed by nearly seventy-five millions those of the United Kingdom.

Upon the face the exports of the United States seem to show a reduction of about \$12,000,000, but this is due to the fact that the shipments to the Hawaiian Islands and Porto Rico were in 1901 no longer classed as exports to foreign countries, and for that reason the export figures on their face show a slight reduction, while in fact, if the figures of shipments to the islands were included, they would show an increase.

The figures of the United Kingdom are, for 1901, \$1,365,047,843, and for 1900, \$1,417,085,849, a decrease of about \$52,000,000. Germany, for the nine months ending with September, the latest available figures, shows an increase of \$4,000,000 in exports, in the eleven months ending with November France shows an increase of \$18,000,000, Belgium a decrease of \$7,000,000 and Austria-Hungary a decrease of \$9,000,000.

On the import side the United States stands fourth in the list of nations, the imports for the calendar year averaging \$73,368,421 a month, against \$211,789,669 for the United Kingdom, \$111,646,000 for Germany, \$75,483,423 for France, \$65,922,642 for Netherlands, \$34,942,018 for Belgium and \$28,600,569 for Austria-Hungary. It is proper to add that the Netherlands figures are for the year 1900, no statements of the commerce in 1901 being yet available.

THE TOURIST'S BICYCLE

To Discover it, the French Touring Club Undertakes a Novel Contest.

Following its exhaustive public test of coaster brakes last fall, the Touring Club of France has set itself a still taller task, that of a competition designed to discover or develop the bicycle best adapted to the tourist. The event will occur August 17 next; it will be open only to French manufacturers or foreign manufacturers having representatives in France.

The course which has been chosen lies in the Pyrenees; the conditions will be very severe, the ground to be ridden over comprising about 225 kilometres (about 135 miles), including 3,700 metres of hills to climb, within a time limit of 15 or 16 hours. As the finishing point is to be the same as the starting point, there will be as many hills to descend as to ascend, which will allow of a considerable use of coaster brakes.

The qualities required of the bicycles will be:

Safety and minimum of fatigue on down gradients.

Diminished exertion uphill.

Pneumatic tires, durable, comfortable, and airtight, easy to inflate, to take off the rim, and to repair.

Sure, simple and speedy adjustment of the different parts of the machine (bearings, chain adjustment, brake, etc.).

Possibility of carrying luggage on different places on the machine, without being hampered by brakes, actuating rods, etc.

Facility for the tourist obtaining whatever gearing he may wish, without causing the conditions of construction of the machine to cease to be rational.

Easy lubrication, either by oil, or by consistent lubricant.

Collection of tools in small bulk, yet sufficient for practical purposes.

Total weight of the machine not to be excessive.

The contest will include: (1) A preliminary examination of the machine presented. (2) Road test with the object of ascertaining the good working power and the reliability of all the parts of the machine. (3) A technical examination, with perhaps trials.

Entries, up to July 1, 1902, will be accepted at 20 francs each; from July 1 to August 1, 40 francs each.

Each maker will be entitled to enter one, two or three machines, not more. Entries to be accompanied by a detailed description of the machines, with sketch and declaration showing special advantages claimed for them. Each machine must have (1) at least one good brake; (2) one cyclorn (bells not accepted); (3) tool bag, inflater, etc.

Copeland Scores a Point.

In the interference case of Robinson vs. Copeland, involving the coaster brake covered by Robinson application No. 65,913, of June 25, 1901, the Commissioner of Patents has ruled in favor of Copeland on one and the usual feature of the case. In his decision he says:

"It appears from the record that the petitioner is a party to an interference in the case of Robinson vs. Copeland, and that his application involved in this interference is for the same subject matter as that now under consideration. The present application contains claims covering the same matter as the issue of the interference somewhat more generically, and are of such character that they may be made by the other party to said interference.

"In the interference testimony has been taken by both parties, and a day for final hearing has been set. Under these circumstances a request by the primary examiner for jurisdiction, in order that he might suggest the claims of the present application to the party Copeland, was denied December 6, 1901, for the reason that the question as to who should have these claims might be settled by the decision in the pending interference. It appears, however, upon oral statement by the examiner, that this question cannot be so settled, but that a new interference will be necessary for this purpose should Copeland choose to make the claims. Under these circumstances it appears that there will be less delay if the claims are suggested to Copeland without awaiting the outcome of the present interference. Should he choose to make them, a new interference will be declared with these claims as the issue thereof, allowing the present interference to proceed to final hearing and decision.

"An order will be issued, therefore, that the examiner assume jurisdiction of Copeland's application now involved in the interference Robinson vs. Copeland for the purpose of suggesting to Copeland such of the claims in Robinson's present application as may properly be made therein.

"To the extent above indicated the petition is granted."

Will Remove to Frankfort.

The Erie Cycle and Motor Carriage Co., of Anderson, Ind., has sold its factory property to the Anderson Tool Co., the consideration being \$5,200. The Erie company is moving to Frankfort, Ind. The plant was originally put up for J. B. Lott as a bicycle manufacturing plant, who moved to Anderson from Morrow, O., eight years ago.

British Jobbers Have Grievances, too.

Like their American counterparts, the English jobbers have troubles and have just formed an organization to see that they are rectified. Abroad, as here, the principal grievance appears to be the tendency of manufacturers to quote jobbing figures with little or no discrimination.

QUADRI-CENTENNIAL PLANNED

Elaborate Celebration of the Bicycle's "Silver Anniversary" in View.

If all goes well, the beginning of the American bicycle will be celebrated this spring on a gigantic scale that cannot well fail to attract and arouse the public interest and enthusiasm.

The fact that it is just twenty-five years since the first bicycle was manufactured in this country supplies the opportunity, and it is the Metropole Cycling Club, of this city, that means to make the most of it.

Resolutions favoring a celebration of the sort have been passed by the executive committee of that organization, and will come before the club to-night for ratification. There is small doubt that favorable action will be taken.

The resolution suggests that the celebration be styled "The Quadri-Centennial of the Introduction of American Bicycles," and recommends May 15 as the date. The idea embraces a lantern parade and carnival on an elaborate plan, and one not merely local in scope. It is hoped that not merely individuals and clubs will be interested, but that the trade itself will take an active interest and be represented by one or more decorated floats commemorative of the occasion.

One Traveler's Inspiring Tale.

"I never know how much I miss The Bicycling World until I have to do without it; will you please send me the last two issues?" writes J. J. Kelleher, who has a store of his own in Salem, Mass., but who is spending the dull months travelling in the interests of the Orient bicycle. "Although I started late," he adds, "I have not yet failed to close in a single town I have visited. Before I open my sample trunks the dealers all tell me they have 'fixed up' for the season, but after they see the Orient themselves they decide they have room for one more line, and when they get that line on the floor it means duplicate orders. This is not an idle boast; it is gospel truth. The change in the policy and management of the Waltham Mfg. Co. is known wherever I go, and that it is making itself felt our orders attest. The business in some bicycles may be dead, but the Orient is not one of them; it is one of the liveliest toads in the puddle."

Monnier Minus Man and Money.

The Monnier Cycle Supply Co., 68 East Congress street, Detroit, Mich., is minus a confidential man in the person of H. L. Grosvenor. C. S. Monnier, the proprietor of the company, claims he is out from \$1,000 to \$2,000, which has been taken from his till without his knowledge or consent during the last three years.

IT WAS A NATIONAL CHAINLESS THAT PAYNE RODE



MODEL 50 NATIONAL CHAINLESS.

From
New York
to
Buffalo
in
42 Hours
55 Minutes

beating the record
over an hour.

They are better than ever for 1902.

NATIONAL CYCLE MFG COMPANY,
BAY CITY, MICHIGAN.

FISK TIRES

The vital point in equipment whether a Bicycle or Automobile is the tire.

FISK TIRES have been tried and tested, you can make no mistake in specifying them on your machines.

FISK RUBBER COMPANY, Chicopee Falls, Mass.

BOSTON,
604 Atlantic Ave.

SPRINGFIELD,
40 Dwight St.

NEW YORK,
83 Chambers St.

PHILADELPHIA,
916 Arch St.

SYRACUSE,
423 So. Clinton St.

BUFFALO,
28 W. Genesee St.

DETROIT,
252 Jefferson Ave.

CHICAGO,
54 State St.

SAN FRANCISCO,
114 Second St.

THE BICYCLING WORLD

FOUNDED 1877
and MOTORCYCLE REVIEW

In which is Incorporated
"The Wheel" and the "American Cyclist."

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By

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General Agents: The American News Co., New York City and its branches.

Change of advertisements is not guaranteed unless copy therefor is in hand on SATURDAY preceding the date of publication.

Members of the trade are invited and are at all times welcome to make our office their headquarters while in New York; our facilities and information will be at their command.

To Facilitate Matters Our Patrons Should
Address us at P. O. Box 649.

NEW YORK, FEBRUARY 13, 1902.

The Situation and the Outlook.

Now that the traveling salesman has practically completed his work for the season, and with the retail selling season in sight, it is possible to fully confirm our earlier forecasts. All thoughts are now of the weather. With an early and favorable Spring, the trade is almost certain to experience a distinct fillip and the best business in three years accrue.

Correspondents, traveling salesmen and manufacturers, not only of bicycles, but of tires and accessories, all report and agree that not in late years were orders more satisfactory or reflective of renewed interest and hopefulness on the part of the retail trade. While the large orders of the previous years are no longer the rule, those booked are substantial in volume and prices average better. If the cheap bicycle has not been given its death blow, it has at least received a vicious uppercut and is no longer the factor it once was. The demand is running strong for high grade goods and goods

with reputations that have been maintained and are being kept in the limelight. In fact, as we remarked on previous occasions, the call is so strongly for goods with established names that the amusing feature of the situation has been the eleventh hour awakening and conversion of those in the trade who heretofore have laughed the agent and small buyer to scorn; their efforts to "get a reputation" is really one of the most significant signs of the times.

Competition in tires and coaster brakes has been particularly keen, so keen that there exists a widespread impression that prices are likely to break at any time. Our inquiry convinces us, however, that the belief is founded on unsubstantiated premises. The original flurry in coaster brake quotations accomplished its purposes, and we think that all concerned thoroughly appreciate that with the immensity of the market and possible demand they would be simply throwing money to the winds by again paring prices, as indeed would be the case.

In several directions factory operations have been hindered, if not retarded, by inability to obtain prompt deliveries of steel, but the delay is not of a serious character and will scarce prove a factor in the retail end of the business.

The demand is marked by some curious contradictions. Thus we have had two prominent Eastern manufacturers declare that the heaviest orders for their bicycles are from the West, the East appearing backward. On the other hand, we have had two Western makers report an exactly reversed state of affairs. All agree, however, that the Pacific Coast promises to sustain its reputation, and to do better even than has been the case for three years past, when it proved the most profitable section in the country. Last season the Coast did not escape the bad weather that played hob with the trade in all directions, and the volume of business done despite the rain is evidence of what clear skies will accomplish this year. The trade there is already in full swing and is of a nature that inspired one manufacturer to describe it as "bully," in response to our inquiry.

About Motor Bicycle Catalogs.

Than the motor bicycle there was never a bicycle that afforded more room for fascinating word description and word painting.

The manner in which it routs hills, headwinds and perspiration, affords outdoor exercise when exercise is wanted, or at will

enables one to skim over earth at any pace with little effort or no effort, that places all men on an equality, whether they are weak or strong or have weak hearts, weak lungs or weak legs, and that brings within easy reach scenes and people previously denied them—all this and more supplies rich material for the ready pen, for word paintings that would arouse the interest, excite pleasurable imaginings and compel the attention and inquiry of practically every person who chanced to peruse them.

It will be well for those whose interests are bound up in motor bicycles to bear the fact in mind. To assume that every one knows all about them or about their advantages is to fool one's self. Some of the catalogues that have reached us appear to have been compiled with this false idea in mind, and are sadly deficient in the attractiveness of wording and the fascination of description that is so easily possible, and that so "catches" the public and creates sales. The catalogs in question will but half fill their missions, and more's the pity.

How the Dog Gets a Bad Name.

We have before remarked the manner in which the cycle trade is injured by the practice of dealers reciting their woes to customers, newspaper men and whoever else happens into their stores.

An excellent instance of the sort is supplied by a recent issue of the Portsmouth (N. H.) Chronicle. It comes to hand with the big scare head, "On the Wane—Bicycles Losing Their Hold on Popular Favor—Same Story Comes from All Parts of the Country."

The heading is followed by a column story which relates that "in a talk with the local bicycle dealers, the fact was made known that the bicycle is on the wane. This does not only apply locally, but exists all over the country. Big factories are closed, concerns are going out of business every month, and the horse is once more being reinstated into general use for pleasure, along with the motor carriages, which are fast gaining a popular hold with the more moneyed classes."

As is always the case, present conditions are compared with those that existed during the boom and, of course, the present is made odious by the comparison, although the article in question qualifies the assertion made by the heading and admits that "many bicycles are still being ridden," etc.

When dealers and others in the trade speak ill of the business in which they are engaged,

it is not strange that press and public assimilate and spread the gloom. Not in several years was there a time when business promised better, and if those who remain in the trade will but employ some one to open their skulls and to hammer home the fact that the "bicycle boom" was abnormal and one such as no other industry enjoyed, and that, therefore, it is an unfair and unreasonable basis for comparison, they will do themselves and their business a service. If they will but accept the doctrine and spread the idea when they find it necessary to say anything to customers or reporters they will help turn public opinion in the channel in which it should be turned and so mould it that sales, not loss of sales, result.

The bicycle business has suffered as much from the thoughtless and ill advised talk of those engaged in it as from any other one cause.

Things That Affect Customers.

It is a question if many dealers do not only lose customers, but have customers lose their desire to ride from incorrect positions of saddles and handlebars. Simple the matter may be, this one of position, but probably overlooked from its very simplicity.

The fact cannot be disputed that a large proportion of riders are not as comfortable as they might be in the use of their bicycles merely because of neglect as to the position of their saddles and handlebars. It is true that many riders think they know all about the matter and cannot be taught even one lesson. This will make the path of the iconoclastic dealer anything but a rosy one and will call for his utmost ability as a diplomat. The possible results, however, are worthy of his best efforts, and the rewards from satisfied customers will be augmented by the fact that many of his customers will be willing scholars.

Taking Good Names in Vain.

In a letter mailed to the gullible who apply for copies of their 1902 catalogue, one of the mail order houses calls special attention to a bargain counter bicycle, which, it asserts without equivocation and in exact language, is "fully equal in every respect to the well known makes, such as Columbia, Cleveland, Rambler, etc., which sell for \$40 and \$50." Instances of the sort suggest that there must be some redress for such palpable attempts to trade on others' reputations, and that those affected should not suffer their names to be thus "taken in vain" without vigorous protest of some sort. If a good name is worth anything it is worth protecting.

To Guard Motor Bicycle Racing.

Those interested in the future of motor bicycle racing in competition should take warning from the experiences in England with motor tricycle racing. This form of speed contest promised much in the way of entertainment and keen interest, but it has been killed by accepting entries from users of abnormally high powered specially built machines. Motor bicycle racing (in contradistinction from pacing) will furnish a decided addition to the programme of any race meet, but if warning is not taken, as suggested, the sport may be killed before it is fairly started.

Editor The Bicycling World.

It is with great pleasure that I send you herewith \$3 to renew my subscription for your valued and highly instructive journal. Please send the paper again regularly. I cannot be without it, as it is always full of trade information that keeps me well informed about the bicycle and motorcycle industry of the glorious America. By careful study of The Bicycling World it has not been necessary for me to visit the States to make my purchases of bicycles, etc. I considered that your paper has saved me that time and expense, as you may be pleased to learn. I may add that I am the only one in Holland now pushing American bicycles exclusively, and with splendid success, year after year. Except that I have had some trouble, principally with the enamelling of certain wheels, I am more than satisfied of their superior quality, which has established for me a strong reputation all over Holland; as a result I am advertising them this year on a much larger scale than any house ever has done.

KLAAS BAVING, Zwolle, Holland.

Beware, the Cheap Motor.

If you value your time and money, and would retain your faith and enthusiasm, steer clear of the cheap motor. Of all the cheap things ever offered nothing is cheaper.

The people who fancied they could build motors, only to find that their motors would not "mote," are numerous, but with small conscience, they are now trying to unload them at cut prices or as "premiums" on the ignorant or unsuspecting buyers, who are usually caught by such chaff.

At this time cut price or the "unusual offer" is in itself ground for suspicion. They carry expense, disappointment and disgust in their train. Be on your guard!

Simple Truth Eloquently Expressed.

At a time when most of the gentlemen in editorial and repertorial capacities are given to writing glibly of the "wane of the bi-

cycle," "the passing of the fad," etc., it is more than pleasurable to find one gifted at once with such insight and such eloquence who can give expression to such expression of the uses and far reaching influences of the bicycle as that published by The Brooklyn (N. Y.) Eagle and reprinted in another column. It is an editorial full of simple truth and just recognition, but the fact does not detract from its merits and value. It deserves the perusal of all interested in bicycles, and whoever has influence with local editors should urge its reproduction. Its general circulation will aid in doing what it urges and in what all in the cycle trade are or should be concerned in doing, i. e., in restoring the interest in the bicycle.

Removing its Mask.

In their efforts to "hang on" to the cycle trade's dollars some of the erstwhile cycling publications that stampeded to the automobile industry and are "shooing" cycle dealers in that direction are having a time of it in proving their consistency and their "affection" for both loves. But it is surely a slip of an editorial cog when one of these papers prints a testimonial which lauds it as "the best automobile periodical," and thinks it deserving of the gratitude of the automobile industry for its efforts in the interest of that trade. The testimonial should help open the eyes of the cycle trade. It simply adds confirmation to what we have several times stated—that these journalistic backsliders have simply made the cycle trade a recruiting ground for the automobile industry and served thereby to weaken the cycling interests.

When the rush of deliveries comes on manufacturers should pay particular attention to the methods of the assembling room. It too often happens that bicycles are sent out with poor adjustments and loose nuts. Received in this condition it devolves upon the agents to put them in condition before delivering to the purchaser. In the hurry and excitement of clamoring customers the agent cannot always give the time he would like, no matter how well disposed.

According to a British authority, "foot-rests are now a drug on the market," while the dearly beloved mud guard is passing into a decline. Of a count of forty-seven bicycles, but six were fitted with guards. The "American invasion" has evidently left its impress.

Write for
Handsome
New
Catalogue

ORIENT

BICYCLES



MOTOR CYCLES and AUTOMOBILES



Track Racer, Model 78, Price \$50.00

Get the
Agency
for
1902

WALTHAM MANUFACTURING COMPANY
WALTHAM, MASSACHUSETTS

There Was Never

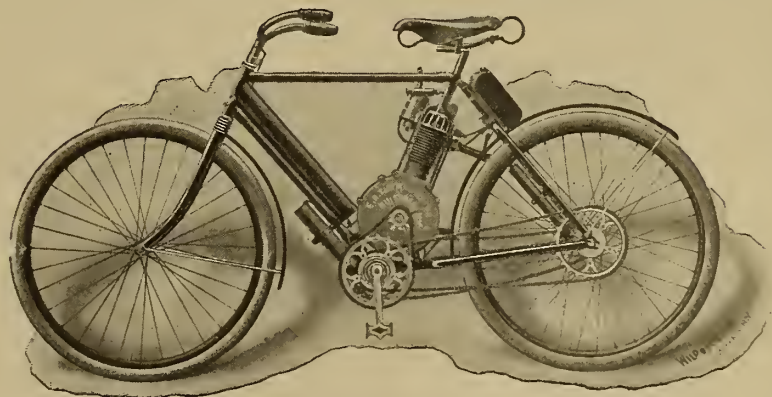
Any Question About the Leadership

of the

AUTO=BI

and the 1902 model
will simply serve to accentuate
its right to lead.

IT HAS ALL THE QUALITIES TO GO TO MAKE
A LEADER.



No man interested in motor bicycles and who consults his own interests can afford to "take on" any other
agency while the Auto-Bi is within his reach.

BUFFALO AUTOMOBILE & AUTO=BI CO., Buffalo, N. Y.

BROOKLYN'S EULOGY

Eloquent and Keen-Sighted Glorification of the Bicycle and its Works.

Reports come from various parts of the country of the deterioration of roads. This is sad news, says The Brooklyn (N. Y.) Eagle in an editorial that deserves reproduction in every newspaper in America. It means not merely a lessened public convenience, but a lapse in civilization.

Where bad roads abound there is less of the activity which good ones encourage. Farmers, for instance, cannot and will not haul over bogs and sand strips the same loads that they easily take to market over macadam pavements, and not being able to get to market they raise less. Doing less work, they fall into shiftless ways, lose mental and moral tone, suffer their places to fall into disrepair, lack public spirit, and their schools will not prosper because of the difficulty of getting to them.

If this seems like straining a point, it is only necessary to compare a region of bad roads with a country of good ones, and the difference in the people of the two districts will be obvious enough. Where the roads are discouragements to travel, society is dull, people are dull, enterprise flags, outdoor work and sport is hindered and markets are restricted; hence industries are small, attendance at schools, churches, meetings, amusements, elections, all public functions suffer, live stock is overdriven, vehicles break down, clothing and tempers are spoiled and strangers are kept out of the country.

The neglect of roads that were recently good, and that, with a little expenditure of money, work and sense might be kept so forever, is, without a doubt, a consequence of the disuse of the bicycle. Whatever may be said of that vehicle, its value in extending well paved streets and well laid roads is unquestioned. So long as a million of wheels were in use there was a common demand for roads on which one could ride them. With pleasure riding came collateral advantages. The country inns, road houses and stores were better kept than ever before; work was found for mechanics at repair shops; the farmers had a more active demand for their products, in view of the increased business of provincial hotels and restaurants; real estate values even were favorably affected.

But the riding of bicycles for pleasure has almost ceased. It is too bad. Our well made paths and wheelways, which four or five years ago were gay with a whirling throng, which at night sparkled with moving lights, which were lined with inns whence came cheerful sounds of music and merrymaking, are scenes of melancholy, the occasional and lonely rider emphasizing their deserted aspect. The road houses are closed and falling into decay, weeds springing about their little lawns and gardens, or snow drifting over

their once populous verandas. The wheel has by no means declined from usefulness, and it seems impossible that so perfect a mechanism as the bicycle should pass from general use and be relegated to the forgotten.

With the improvement in roads which has been promised by many legislatures, and which is contemplated on a grand scale in this State, it may be that thousands whose wheels are in storage will go into the open again, freshen their color, strengthen their muscles, brighten their eyes, improve their appetites, gain a wider knowledge of local geography, find delight in discovering scenes of beauty, and infuse a needed life into dull and impoverished sections. It is a noble invention is the bicycle. There is no physical delight more exhilarating than that of floating over a smooth road on a spring morning, when birds are mating and wild flowers opening along the way. It is a delight that should be known to the people of the towns with their thin blood, starved lungs and eyes hungry for green earth and blue sky.

It may be that bicycles are made too cheaply nowadays, and that people are discouraged from riding by the frequent breaking down of their machines and the bills of expense for repairs. Some of the best machines are no longer made at all, and many of the poorer kinds are dear and dangerous at any price. As to the encouragement by the bicycle of good roads, it is hoped that a similar service may be done by the automobile; but the self-propelled carriage is at present a contrivance only for the rich, while the bicycle is for everybody.

If it is possible to join bicyclers, automobilists, horse riders and carriage drivers in an interest in good roads, the reforms inaugurated by the bicyclists may be carried forward to a triumphant issue.

But bicycling ought not to die. It is a sane enjoyment and a medicine. Restore the interest in it.

Coasting and Braking.

It should be remembered that in coasting and braking contests that the tire has a very material effect on results. If the braking contest is entirely distinct from the coasting—that is, if a certain distance is to be covered and the brake then applied—the distance covered before the brake is put on should be considered from the standpoint of time used. If this is not considered it is obvious that by using slack tires the speed reached at the beginning of the braking will be so slight that the momentum to be overcome will be greatly reduced.

It must be remembered that the momentum varies as the square of the speed, so that a slight reduction in speed means a much greater reduction in momentum. To make the test anything like conclusive the tires should all be inflated to the same pressure. It is equally important that the distance covered before applying the brake should be done in a given measurement of time.

SPEEDOMETERS UNNECESSARY

Ability to Sing a few Songs all that is Required to Measure Pace.

Humor is not, fortunately, confined to the stage and comic papers. That profound publication, the C. T. C. Gazette, is, for instance, often filled with humor of the richest sort—the unintentional sort. Recently a discussion as to the best means of estimating speed has given interest to its pages, the laugh being reserved for the last. It is supplied by a chap who writes:

"I have a modern safety that will travel as far as the 63-inch wheeled highflyer with one revolution of the pedals, so the gear of my machine is said to be 63, diameter of wheel 28 inches." Musical compositions are marked to be played or sung at so many beats per minute. I am familiar with many of these rates of speed, and by pedalling at a known rate I can tell pretty accurately how many miles I shall cover in one hour. For example, I make 640 beats to travel one mile, and to travel ten miles in the hour I must make 6,400 beats. If I want to go eight miles I must make 5,120 beats, and for six miles 3,840 beats of the foot. Dividing these rates by 60 I get a musically associated movement of the feet per minute, viz., 107=ten miles per hour, 85=eight miles per hour, and 64=six miles per hour. Suppose I was six miles from home, and had one hour to spare to do the distance. I hum the chorus 'His yoke is easy,' and pedal about the rate the chorus moves, and I am home in the hour. Say I want to go eight miles per hour; I say 'Lift up your heads' (rate 88 per minute), and I find myself passing the milestones at the rate of eight miles per hour. If a weary cyclist will troll out or hum a song about the speed he wants to go at, keeping time with his pedals, he will find the exercise a very helpful pacer, and he will also find his judgment of bicycle speeds much improved by observation. I should like to see some lawyer getting a policeman in court to illustrate with his hands the rate of speed he saw the cyclist's feet go at, especially in a case where he swears the rider was going at 16 or 20 miles an hour."

To Prevent Side Slip.

When riding on the side of a wet road on a motor bicycle it will always be found a help to do a little pedalling with the foot that is nearest the gutter. There is always a slope at the side of the road, and by using this foot on this pedal it will be found that the tendency is to push the machine against the upper side of the slope, and that the machine can be brought to the centre of the road without slewing.

"The Motor: What It Is and How It Works." See "Motocycles and How to Manage Them." \$1. The Goodman Co., Box 649, New York.

OILING THE MOTOR

Present Methods Have Shortcomings—The Pump as Employed Abroad.

The proper lubrication of the motor used on a bicycle is a subject that has not met with as clever a solution as it should have from the thought that has been given it. The first motor bicycles brought into this country were from France, and these, as well as the few built here, were lubricated by pouring a given quantity of cylinder oil into the crank case at stated intervals.

This method was followed by connecting the crank case with an oil supply, and between the two placing a two way cock that was opened more or less as circumstances seemed to demand. This method had at least the advantage that, if properly worked and carefully studied, it would save the annoyance and need of dismounting, except at long intervals to draw off the old oil. Even this method was a failure at times, no matter how expert the user, and entailed conditions that were difficult to carry out in practice.

In Europe, particularly in England, where the motor bicycle is making rapid strides, the first named method continues to be used by many makers, and its failings are accentuated by better schemes that are used in a few instances, and they are conspicuous by their utility and directness. Of these the one that stands out most prominently is copied from a method used in the past by a few makers of motor tricycles.

The device consists of a plain plunger pump that is connected at its feed end to the oil supply, and at its delivery end to the crank case. The position of this pump varies with the ideas of the makers, but in general it lies in a position alongside and attached to the seat post frame tube. This position serves a double purpose. By attaching it directly to the frame tube it is made particularly stable to withstand the thrust of the plunger, and it is in a convenient position for direct operation from the saddle.

As mentioned above, the great failing of the direct feed with a plain cutoff cock was that there could be no surety that the feed was taking place, and another fault was its liability to flood. Capillary feed might be used to prevent this, but the danger came from base compression, which had a tendency to blow the wicking back into the oil tank, or on the return stroke to suck it into the crank case. With the use of the pump there is a surety of feed, as the action is positive on the oil in the pump, and that there is oil can be told from the way the plunger works.

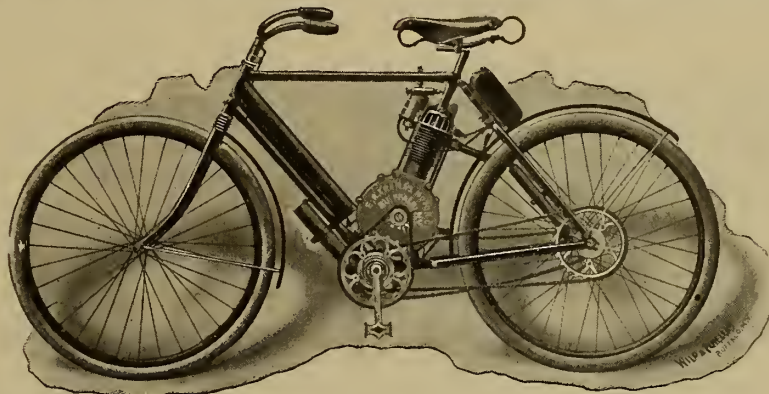
In attaching the pump care should be taken to have a first class stuffing box in the head where the plunger rod comes through. Equal care should be exercised in attaching the two feed pipes. These pipes, of course, must be of metal, and the best to use for this purpose is copper. Before join-

ing the pipes they should be thoroughly annealed, otherwise they will crack from vibration. The pump can usually be so placed that one length of the pipe will be short. Where a long length is used it is always best to provide against the vibration feature by coiling the pipe with at least one completed turn. There is a flexible copper piping on the market that would serve most excellently if it could only be had in smaller sizes, the smallest now made being about three-eighths of an inch.

Transformation of the Auto-Bi.

As was pointed out in *The Bicycling World* of several weeks ago, the Buffalo Automobile and Auto-Bi Co., of Buffalo, N. Y., for 1902 will place on the market a model radically differing from last year's design. The new model is shown in the accompanying illustration.

The motor rests on a special bedplate that is a part of the crank hanger, and is further supported by an arched forging at its head, connecting with a short tube running to the



seat post cluster. The batteries are carried in a case resting on the diagonal frame tube with the coil underneath same. The gasoline tank is attached to the rear of the stays, between the seat post and the rear mud guard. The muffler is attached to the left hand stay. The mixer is forward of the motor head, and the lubricating oil is supplied by a pump to give a fixed amount.

The motor drive is as follows: A short chain connects the sprocket on the motor shaft to a large sprocket mounted on a ball bearing ring, which has its bearing on an eccentric extension of the right hand crank bearing. This same ring has an inner sprocket, of smaller diameter, which is chain connected to a sprocket on the rear hub. As the hub is provided with a coaster brake, it is obvious that the pedal driven sprockets and chain are only in operation when desired. The eccentric extension of the crank bearing provides means for adjusting both motor chains with one movement.

The Auto-Bi construction is such that the chain drive can be dispensed with and belt drive used without altering the machine in any manner.

"How to Drive a Motorcycle." See "Motorcycles and How to Manage Them." \$1. The Goodman Co., Box 649, New York. ***

STARTING IN WINTER

A Petty Trouble of Motor Bicyclists and how it may be Overcome.

In using motor bicycles in the winter it should be remembered that the cold air suits the motor to a nicety. The only difficulty in the matter is at the start, and this comes from the gasoline. With surface carbureters this difficulty is more notable than with jet or spray devices.

Unless the weather is excessively cold the trouble of starting can be entirely done away with by rapidly turning the motor over a few times by hand and then injecting a few drops of gasoline. If the weather is particularly sharp then the thing to do is to run the machine on a stand indoors for five or ten minutes, immediately taking it out and starting to ride.

Two other methods can be used with success. One is to place cloths previously

dipped in hot water on the bottom or sides of the gasoline tank and around the carburetter. The other is to saturate waste with gasoline and set it on fire. The first method is tedious, and, as the facilities must be practically the same as those needed to run the machine indoors for a while, this is preferable. If absolutely no means are at hand for indoor work—that is, if the motorist is caught away from habitation—then the piece of waste can be used; but it should be remembered that in so doing good sense must prevail to the utmost.

It may seem unnecessary to say that the waste should be held on a stick and not in the hand, but a case is known where the above advice was given and the one using it thought he could hold the waste by "one corner." Waste should always be carried in using motorcycles, as it is always handy; but if without it and heating becomes necessary there can usually be found a good sized stick or even a flat rock of liberal proportions.

A cycle sundry that will find a revival brought about by the coming of the motor bicycle is the stand that will permit the rear wheel to be raised from the floor. The dual ownership will be found to be almost essential.

The Best Price to pay for a Cycle Saddle

is the price of the best saddle, and no man who is familiar with saddles or who takes the trouble to learn all about them can fail to acknowledge that

The PERSONS Saddle



IS THAT VERY SADDLE.

When cycle people stoop to folly
And find too late that they've been "stuck,"
No balm can ease their melancholy—
Be wise, therefore; don't trust to luck.

DON'T STOOP TO FOLLY.
DON'T TRUST TO LUCK.
DON'T PERMIT YOURSELF TO BE
"STUCK."

Specify the Persons Saddle and secure satisfaction. There is nothing just as good.

PERSONS MANUFACTURING CO.,

CHARLES A. PERSONS, PRESIDENT,

WORCESTER, MASS.

The Retail Record.

Claremont, Cal.—Vernon Walcott will build addition.

St. Louis, Mich.—Forquer & Ferris have opened store and repair shop.

Old Saybrook, Conn.—Coulter & Johnson succeed Charles S. Gates.

St. Johnsbury, Vt.—O. W. Smith, Republican Building, succeeded Joseph St. Jock.

Boston, Mass.—Warren A. Spurr, 122 Tona-wanda street, petition in bankruptcy.

Canastota, N. Y.—Mrs. W. O. Clark will move to East Centre street.

Cortland, N. Y.—Radway & Dixon succeeded Edward Richerson.

Sherburne, N. Y.—Curtis Harriman will open in North Main street.

When Dealers Tell Different Tales.

When in doubt as to how the world is wagging on any subject from political to commercial, the atmosphere can always be clarified by referring to the pundits on the press of the small country towns.

The journal devoted to a specific industry may count itself as fairly in touch with that industry. Even the daily papers of the larger communities may flatter themselves that they watch the trend of events, as exemplified in the following extract from a daily paper published in a town of prominence and having a population of considerably over one hundred thousand:

"Bicycle dealers have maintained for many weeks past that indications point to one of

the busiest seasons in the history of the wheel, and every day approaching the opening of the riding season appears to furnish proof of their predictions."

But wrong is the writer of the above, because the editor of a paper printed in a town of four thousand inhabitants most emphatically sends forth the fiat that: "A local dealer who has handled bicycles quite extensively in past years says there is no doubt that the popularity of the wheel is waning."

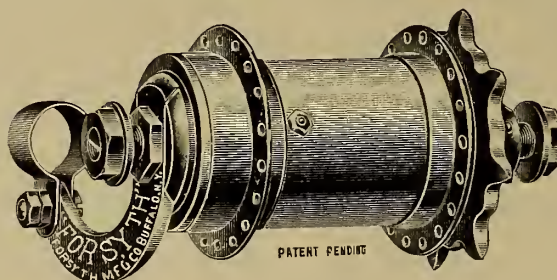
Most truly have things gone to the demerit bow-wows.

The Doctrine of "Just as Good."

If a man has spent a million dollars building up the reputation of a certain article it is to his advantage to keep up the quality of the material which enters into the manufacture of that article. His profit is large if he is honestly treated, and it would be suicide for him to use inferior material for the sake of a little extra money, says the New York Evening Journal. The man who makes up an imitation article and announces it as "just as good" has no such sum at stake. He has invested nothing. He has no valuable name to ruin, and it is to his interest to make the "just as good" article just as cheap as he can make it. The buyer should remember these facts and put his confidence in that retailer who gives to the customer just what he asks for, treats the wholesaler honestly, and shows gratitude for the energy which builds up a successful business and makes the retailer prosperous.

ALL THAT A COASTER-BRAKE OUGHT TO BE
AND A LITTLE MORE.

That's what
the Faultless Forsyth is.



As good as it looks—and it looks pretty good. Its adjustability, and other original features have caught the trade.

Merit, and merit only, is bound to win in the long run.

We'll be in at the finish.

Hadn't YOU better get into line NOW.

FORSYTH MFG. COMPANY, Buffalo, N. Y.

RACING

Following the annual meeting of the National Cycling Association, its board of control held several sessions. At the concluding one, on February 5, the following decisions were announced:

Benjamin Monroe, of Memphis, Tenn., is suspended from all competition for a period of sixty days from date, or pay a fine of \$25, for failure to ride at Philadelphia on January 30.

For conduct detrimental to the sport at Buffalo on February 1 William Weller and F.

Tucker, Philadelphia, are suspended from all official connection with cycle sport for retention of permit and registration fund collected.

For non-payment of handicapping bills George B. Anderson, Woonsocket, R. I., and Percival Clark, New Haven, Conn., are suspended from promoting racing until the obligations are settled.

W. G. Gallagher, New York City; D. J. Allcutt, Philadelphia, and F. B. Marriott, Philadelphia, were reinstated.

George B. Chase, Brockton, Mass., and F. D. Osgood, Lynn, Mass., have been ordered to compete hereafter as professionals.

Motocycles Uphill and in Traffic.

Those who have trouble when running their motor bicycles at slow speed through traffic, etc., with the motor's tendency to suddenly stop, should remember never to let the motor do all the work at slow speed.

The motor does its best work when run at a uniform speed and at a fairly high rate, and the sudden checking upsets its best working conditions. If the spark is suddenly changed to give late ignition, or if the carburetter is provided with a throttle, and this is suddenly cut down in its feed, the choking of the motor can be overcome by assisting it a little with the pedals.

One of the daredevil cycling performances which has been witnessed by thousands, but which has never before been pictured, is that shown by the accompanying illustration.

"cycle whirl" or miniature track recently seen at Proctor's Theatre in this city. That the act is a thrilling one the picture attests, being made more dangerous by the upcurve

air space before diving into the 3 foot tank of water into which he lands. Not satisfied with the hazardous feat, he is planning a "cycle whirl" which is to be located at the



The performer is "Mile-a-Minute Aerial Cyclist" Schreyer, as he styles himself, and the same who claims to have originated the

of the chute, which is 102 feet at its highest point and 35 at the "take off." Schreyer estimates that he flies through 85 to 95 feet of

top of the structure and which shall have no bottom; he expects to precede the dive by riding a mile on the sloping sides of what may be termed a "bottomless pit."

A. Dahlke, of that city, are suspended for thirty days.

The Interstate Fair Association, Trenton, N. J., is debarred from permit privileges and its track made unavailable for cycle racing conducted under N. C. A. rules until the payment of balance due for permit used September 30, 1901, is made.

The McDonald Fair Association, McDonald, Pa., and Brish Brothers, Frederick, Md., will not be granted any more permits until money now due for permits is paid.

The North Jersey Agricultural and Driving Association, Hoboken, N. J., for failure to observe N. C. A. regulations, will be refused permits for one year from date.

George S. Atwater, Boston, and Frank A.

On February 7 application was made to Vice-Chancellor Emery for receiver for the New Jersey Bicycle Track Company, which owns the board track at Vailsburg. The complainants are Samuel B. Illingworth, Victor Jacoby, Robert L. Liblin, Edward L. Blauvelt and H. F. Neefus, who claim the majority stockholders, Henry J. and Charles B. Bloemcke and Harry D. Goode, have conducted the affairs of the company to the detriment of the interests of the petitioners. It is alleged that they have frozen the other stockholders out of the management of the track, and have also failed to make a proper accounting. In the bill it is requested that the officers of the company account for \$20,000 of its funds.

The same general rule applies to hill climbing. It is unfair to go at a hill with all the deliberation of a schoolboy. If the hill is seen in time it is better to let the motor down a little and then pick up its speed, and as the ascent is started give a few sharp thrusts on the pedals. While going up the hill, instead of waiting for the motor to lag considerably, keep the ear well tuned to the exhaust, and at the least sign of letting down a few turns with the pedals will yield results equal to putting a nickel in the slot and getting back a dollar.

"Motocycles and How to Manage Them"; 126 pages, 41 illustrations; cloth bound. \$1. The Goodman Co., Box 649, New York. ***

WIRING OF MOTOR BICYCLES

Light on Some Details That Have Confused the Uninformed.

During the last year several changes have been made in the matter of wiring on at least one well known make of motorcycles, and where purchasers have had machines of this make dating perhaps two or three months apart in delivery, they have frequently been puzzled to know what to do if at any time they disturbed the wiring.

The thing that particularly puzzles them is the matter of grounding, as many of them have been taught that the two circuits, the primary and secondary, must be complete in themselves, or, rather, that there must be return wires for each circuit, and that the primary must be completely insulated from contact with the motor which is made the dead circuit, or earth, for the secondary by the screwing in of the spark plug.

A part of this mixup and confused tangle of wires is that some dealers have run across coils with five wires, coils with six wires and coils with only three wires. The five wire coil is so rarely met with in comparison with the other two that it will not be taken up for the present at least. It is to the other two that attention will be given.

To begin with, it should be understood that, other than to the eye, there is no difference. The fundamental principle cannot be varied from, but mere details can, and it is in details that the differences exist between the two styles of coils. In a six terminal coil there are two battery wires, two primary circuit wires and two secondary circuit wires that come through the coil casing. In three terminal coils there is but one wire for each of these, coming through to the outside, the circuits being completed in the coil proper. This method, of course, necessitates the grounding of each circuit in the frame or metal of the motorcycle. To this practice exception can be taken with good reason, as both primary and secondary circuits are connected, and it would be much better, from the battery standpoint, if this ground circuit could be done away with altogether and all electrical parts perfectly insulated.

While in the old six terminal coils the primary circuit was thoroughly insulated, the return wire on the secondary circuit was a farce, inasmuch that the spark plug was so made that the completion of the circuit was made by the metal of the engine, and the running of a return secondary wire to the same part of the motor was a fifth leg to a dog. To derive the full benefit of the return wire in the secondary it should run to the return pole of the spark plug, and this pole be as carefully insulated as the feed wire that runs to the centre pole on all plugs. It can be seen from this that a plug so made that it would carry out these needs would be so large in general appearance that to most people it would look out of place on a motorcycle motor.

As stated above, the strongest objection to single wiring is really from the battery standpoint. It uses up batteries at a greater rate, and batteries cannot be used down to so low an amperage as when double wiring is used, even on the primary circuit alone.

On the other hand, single wiring possesses many advantages, and, after years of experience with both systems, many uses are fully satisfied with the single wiring. It greatly simplifies short circuit troubles, affords better opportunities for neatly disposing of the wires, and both of these are troubles that only those can appreciate who have had wide experience.

But to come back to the details of different wiring. In the old six wiring the lead was made from the negative pole of the battery to a pole of the switch in the end of the handle bar. The return wire ran from a parallel pole in the end of the handle bar to one pole of a plug cut-out insulated on the top frame tube of the bicycle. From the other pole of the cut-out a wire ran to one of the battery terminals on the coil. The other terminal on the coil connects to the positive pole of the battery. Care was not always taken to make the battery pole connections as here noted, it frequently being the case that the positive pole was connected to the grip switch and the negative pole to the coil terminal.

The primary circuit had either of its wires leading from the coil, run to a pole on the spark controller that was in circuit with the platinum tipped screw of the make and break on the controller. The other primary wire ran from the coil to a pole in circuit with the trembler blade of the make and break. The circuit, it will now be seen, was completed when the blade was brought into contact with the screw tip.

The two wires of the secondary circuit leading from the coil were disposed of as follows: Either wire was attached to the outer end of the centre pole of the spark plug, and the other wire was attached to some part of the engine. As will be noted from above, the wire from the engine back to the coil was useless in any sense, because the plug was—and all present plugs are—grounded to the engine as follows: A small platinum wire is fixed into the body of the spark plug, and the minute the plug comes into contact with any piece of metal the circuit is completed through a ground.

All this has now been simplified by progressive makers in the use of the three terminal coil. A wire runs from the battery to the grip, having a safety switch or cut-out plug somewhere between. From the other pole of the battery a wire runs to the battery connection of the coil. A single primary wire leads from the coil to the contact screw, and another single wire from the secondary of the coil to the spark plug. In some cases a short wire leads from the blade pole to a ground on the engine or bicycle. In newer construction this is done away with, as a ground is made when the cam brings the blade into contact with the screw.

In all cases it must be understood that the contact screw must be perfectly insulated from the engine, or there will be a constant circuit, and the make and break of the blade will have no effect. Of course, in this construction there is no need of insulation for the blade, as was the practice in the older construction. Where this method is used it must always be looked to that either the blade has a perfectly clear connection when it is attached to a metal controller box, or that it has a perfectly controller box, or that it has a perfectly clean contact with the operating cam. If it is put in a box of non-conductive material then the contact, between the tip on the blade and the cam, must be perfect, or else there will be a failure in sparking.

Now for a few words on the details at the grip contact point. As before explained, the old way was to run two wires to two poles that were insulated in a vulcanite block positioned in the left end of the handle bar. This was where a six terminal coil was used. When three terminal coils first came into use some makers ran the grounding wire back through the bar and out to some convenient nut or bolt. To good designers this was obviously ugly and unnecessary. Then came changes in detail. One method used was to pass a screw through the tubing of the handle bars into one of the poles, thus grounding when the plate in the grip was screwed against both poles.

The next method used was to do away with this return wire, and in place of it pass a screw through the tubing of the handlebar to the pole thus left open, thus grounding when the brass plate in the grip was screwed against both poles.

Next it was discovered that one of the troubles that had always puzzled many in the electric circuit was due to the use of these two poles. It must be understood that always there has been a centre screw, thoroughly insulated, on which the grip was turned to open or close the circuit by means of the brass plate previously mentioned and the two brass poles. In the frequent use of this grip the plate had a circular rubbing action on the two brass pins that acted as poles, and as the centre screw was of quick pitch the plate came into contact with one screw so much earlier than with the other that it wore it down, and in time there would cease to be an assured cross circuit every time the grip was turned.

This lack of circuit at the handle bar has bothered a good many in the last few years, and those who noted the difference in length of the two poles would occasionally file the one down, only to find need of repeating this operation. The latest method to obviate these troubles is to run the battery wire to the above mentioned centre screw, and by setting the insulating plug back about one-eighth of an inch from the end of the handle bar this permits a ground when the grip is screwed home. In other words, the centre screw is in circuit because the brass plate in the grip, through the centre screw, is in constant engagement, and when this plate comes into contact with the end of the handle bar tubing it is obvious that the batteries can get at their work. Another feature of no small value is that it reduces the parts by one-half.

CONCERNING SMALL SHOPS

Factors That Contribute to Their Success or Failure — Power a big Item.

On January 28 an interesting paper, entitled, "Mechanical Efficiency of Small Shops," was read by Frank E. Baker before a cycle trade association of Liverpool, England. The author has had experiences in shops of this class, serving in nearly every capacity from putting the cement in rims for solid tires up to that of manager, and his paper was naturally of much interest. As a result of his studies Mr. Baker called attention to a point that is too often overlooked by small makers in their factory management, and that is that the factory end too frequently does not earn its fair proportion of the profit. The result of this is that the selling department has to earn sufficient profit, not only to justify its own title, but to cover the losses made by sheer incompetency in the shop. Properly managed, the shop should be not only self-sustaining, but earn a profit equal to the selling end.

To insure good results an adequate equipment is necessary, and one of the prime essentials is power. The ownership of an engine greatly increases the field of work from which business can be obtained. With a power driven lathe, operated by a good workman, the range of work that can be undertaken can hardly be limited. If repair work fell off it could be profitably used for toolmaking.

Without a power equipment grinding and polishing were hardly possible. It should be unnecessary to have to anneal and return hardened parts when it was desired to remove small amounts of metal. Grinding attachments, which for all practical purposes were as good as expensive grinding machines, are made which could be fitted to lathes. If ordinary care is used, the amount of grinding which would be done in a repair shop would not be likely to cause any serious injury to the machine to which the attachment was fixed.

There are three possible sources of power, which he placed in the following order of merit: First, electric motor; second, gas engine; third, oil engine. The first named was silent in running, required little attention and was an absolute non-consumer when not in use. If floor space was unavailable it could be affixed to a bracket, or even to the ceiling.

Case hardening cannot be efficiently done by makeshift methods. He suggested that repairers should keep in stock, for the production of small parts, such as cones, etc., a supply of cast steel, so that the parts could be turned, hardened and tempered direct without the necessity of carbonizing. In the case of parts where case hardening was obligatory, he thought that the small men would do best to seek the offices of the parts manu-

facturers, to caseharden same after they had been turned.

Another matter in which the repairer might profit by placing himself in communication with the parts manufacturer was in the purchase of steel. It was often a very difficult matter to obtain from the local merchants the kind of steel required. The manufacturers, he thought, would not object to furnishing their customers with material suited to their requirements.

Dealing with the commercial side of the small shop, Mr. Baker said that it was his belief that the owners of small factories paid insufficient attention to the cost of the work turned out, and to the charges made for same. Every job should be made to earn a profit. As a rough and ready suggestion, the following rule, he thought, would be found not unsatisfactory: Double the cost of the workman's time on each job, put 50



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per cent on the cost of all material used and add 10 per cent for establishment charges.

There was a growing belief that in the future high priced machines would be made in greater numbers by small makers than in the past. The large houses were standardizing more and more every year, but there always remained a large section of riders whose requirements were not met by a standard machine. They would look to the local maker for the production of the bicycle embodying their own ideas, and made according to their own particular fads and fancies. That was another very strong reason why small makers should now go thoroughly into the matter of the equipment of their workshops.

Mud has Its Uses.

According to one authority, a slight wetting of the tires is good for them. Unless they occasionally encounter moisture in some form they dry up and crack, allowing the moisture from mud to penetrate to the fabric and rot it. The obvious consolation to a rider when plugging through a path of mud is that his tires are being benefited, if he himself is not.

TO ENCOURAGE TOURING

How the Frenchmen are Seeking to Instill Native Appreciation of France.

The manner in which the Touring Club of France purposes increasing the touring spirit and in making France itself appreciated by French tourists is now disclosed. By instruction of the council of the president he has addressed letters to all authorities in the picturesque districts of France suggesting that at the summit of ascents from which picturesque or historic views are obtainable rustic seats should be placed, and, further, that these seats should have affixed to them plates pointing out the best point of view, the points of the landscape and the incidents, if any, which make it memorable. Indeed, the club itself proposes to provide the seats and the information plates at points proposed to them by the authorities having knowledge of the neighborhood. Additional proof of the go ahead policy of the T. C. F., to which The Bicycling World last week devoted considerable space, is afforded by the fact that during the last four years no less than three hundred hotels have been gratuitously provided with sanitary apparatus by the club at a cost of \$2,500. A further sum of some \$3,000 is to be devoted this year to the same purpose. One hundred and twenty hotel proprietors have at their own cost fitted the apparatus approved by and furnished on special terms by the club.

"Discovered" by Jolly.

"On the other side" they have a never ending pastime that is denied to Americans—that of "discovering" the maker of the first bicycle. The interesting individual has just been "discovered" once more, this time by one J. Jolly, of Birmingham, England, who enters a claim in favor of a poor woodman named John Donaldson, of Arbutnot, Scotland.

According to Jolly, Donaldson was a bit "daft," but a genius in the musical and mechanical way. During the fruit season he was wont to carry fruit, etc., to a neighboring town, which set him thinking out a machine which would carry him and his two heavy baskets. Mr. Jolly, then a schoolboy, helped him with the drawings, which provided that the machine should be driven by means of an endless chain and cog wheels. Lack of money and support forced Donaldson to build a rough tricycle in wood, with pulleys and spliced cord in lieu of chain and cog wheels, and the whole thing collapsed on the first trial. The model was made in 1845. Donaldson failed to obtain support, lost hope, and died subsequently in a lunatic asylum.

Imagine trusting a repair to the tender mercies of a workman receiving the magnificent wage of from 10 cents to 16 cents a day. Yet this is the sum paid native mechanics in repair shops in India.

The Week's Patents.

692,267. Wheel Hub Brake. Charles Glover, New Britain, Conn., and Naaman W. Has-kins, Brooklyn, N. Y., assignors to P. & F. Corbin, New Britain, Conn., a corporation of Connecticut. Filed Nov. 15, 1901. Serial No. 82,422. (No model.)

Claim.—1. A wheel brake, comprising, a brake shoe, a lever, a fulcrum therefor, one end of said lever being substantially shorter than the other end and bearing against said shoe, a brake actuator, a portion thereof engaging the longer arm of said lever as said actuator is moved in one direction, another portion of said actuator engaging said lever close to said fulcrum when said actuator is moved in a reverse direction.

692,368. Pneumatic Tire. Frederick J. Seddon, Manchester, England. Filed April 15, 1901. Serial No. 55,967. (No model.)

Claim.—A disconnectible joint for the pneumatic tubes of wheel tires, consisting of a tapered spigot of less diameter at the root than the body of the tube, forming thereby an annular shoulder, the end of the spigot being formed with an annular rim or flange, a sleeve forming a frustum of a cone joined at its base to the body of a second tube, and corresponding in length with the distance between the shoulders and the flange, and the internal diameter being about the same as the external diameter of said nozzle between the parts, said sleeve and spigot being thin enough and tapered enough to permit the external air pressure to act centrally upon the external surface of said sleeve, and both the nozzle and sleeve being open throughout their diameters.

692,383. Bicycle. Peter Tarzian and Megurdich Tarzian, Paterson, N. J. Filed May 17, 1901. Serial No. 60,684. (No model.)

Claim.—The combination, with the head portion of a bicycle, of a disk mounted on said head portion, handle bars carried by said head portion, and a hollow casing arranged on said disk and inclosing said head portion and parts of said handle bars which form a joint therewith, said casing being divided substantially vertically thereof to form separable sections, and one of said sections being hinged to the other and having its line of hinge horizontally disposed, substantially as described.

692,446. Pneumatic Tube Protector. Naaman D. Hopkinson, Spokane, Wash. Filed April 8, 1901. Serial No. 54,880. (No model.)

Claim.—1. A protector for bicycle tires having its outer surface provided with intersect-

ing grooves which run diagonally of the tread of the tire.

2. A protector for vehicle tires having its outer surface provided with intersecting grooves which run diagonally of the tread of the tire and its ends overlapped, one of the overlapped ends having a plurality of longitudinal slots, the side walls of which are recessed, and the other end having perforations for alignment with the slots, and clamping bolts adapted for engagement with the slots and perforations and to hold the overlapping ends of the protector against lateral movement, thus to protect the inner tube from injury, and having heads adapted to enter the recesses interchangeably to hold the ends in different positions and to lie flush with the protector.

692,538. Bicycle Lock. William H. Niemeyer, Los Angeles, Cal. Filed April 29, 1901. Serial No. 58,033. (No model.)

Claim.—1. In a bicycle lock, a lock casing adapted to be secured upon the framework of the machine, a name plate casing also adapted to be secured upon the framework of the machine, a slide adapted to be guided in suitable guideways in the name plate casing, a revolving plug journaled in the lock casing, said plug adapted to be turned by a suitable key, an eccentric portion formed upon said plug, two bolts upon the opposite sides of said plug adapted to be operated upon by said eccentric portion, openings formed in the hub of a bicycle with which one of said bolts is adapted to come into engagement, openings formed through the fork of the bicycle, the name plate casing and the name plate slide, through which the opposite bolt is adapted to protrude when the other bolt is withdrawn from the openings in the hub of the wheel, substantially as described and for the purpose specified.

692,658. Variable Speed Driving Mechanism. Reuben M. Head, Allegheny, Penn. Filed August 15, 1900. Serial No. 26,957. (No model.)

Claim.—1. In a variable speed driving mechanism the combination of two clutches, with an inclosing drum, revolving in a fixed, unchanging direction, from which the power is delivered; intermediate gear wheels connecting said drum, with a prime moving shaft or axle; means on said shaft or axle for alternately engaging and disengaging said clutches automatically, thereby increasing or diminishing the speed or power delivered from said drum and caused by a reversal of the direction in which the prime moving shaft or axle rotates, substantially as described.

692,725. Bicycle Attachment. Harry Simmons, Boone, Iowa. Filed Sept. 9, 1901. Serial No. 74,741. (No model.)

Claim.—The combination with a bicycle, having an opening in its steering head and an opening of different size in the fork stem, said openings being so positioned as to be in alignment when the bicycle wheels are in alignment, a two part clamp to encircle the steering head, a screw for connecting the said parts, a lever fulcrumed to the said clamp and having one end designed to enter both of said openings, and a spring having its ends fixed to the said lever on opposite sides of its fulcrum and having its central portion arched or bowed to yieldingly engage the adjacent portion of the steering head, substantially as and for the purposes stated.

692,734. Sparking Igniter for Explosive Engines. George M. Thompson, Philadelphia, Pa. Filed March 30, 1901. Serial No. 53,583. (No model.)

Claim.—1. In an igniter for explosive engines a sparker having a fixed electrode, a movable electrode attached to an oscillating shaft, an arm attached to said shaft, a crank shaft, a gear wheel actuated thereby, an adjustable disk pivoted eccentrically to the gear wheel, a rod pivoted at one end of the disk, the opposite end having a movement in alignment with the sparker arm to actuate the same and means for holding the disk in adjusted position.

SPOKES AND NIPPLES

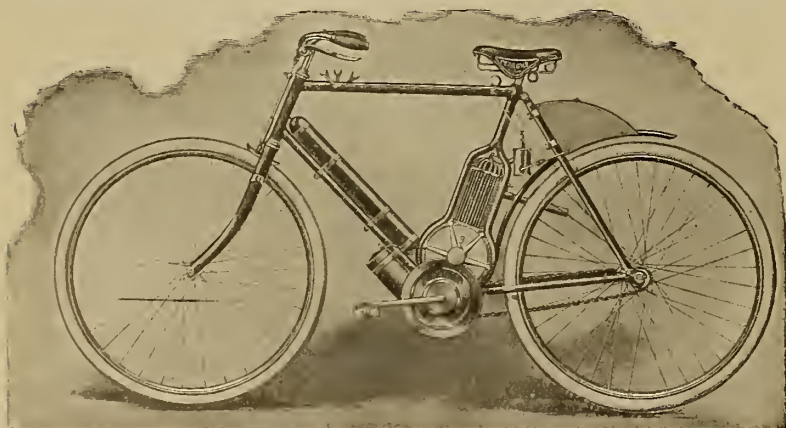
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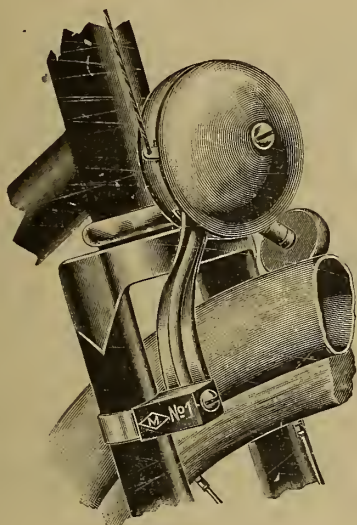
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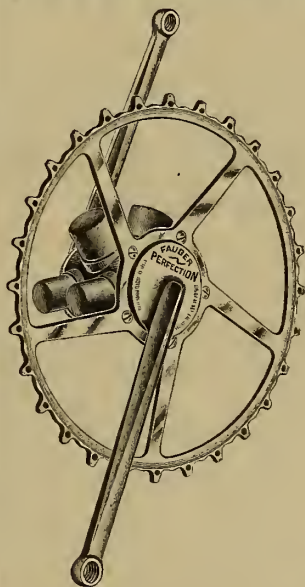
A trouble that beginners have with motor bicycles is a general uncleanness from oil leaking out of the crank case. With a well constructed motor there is no excuse for this. It is clearly a case of flooding, too many users going on the basis that if a drop is good for one mile fifty drops is good for fifty miles, and it might as well be all done at once.

The proper feed can be determined with a little study, and when once known, not only will a greater air of cleanliness be prevalent, but the motor will work much more satisfactorily. A point too often neglected is to let out the old oil through the drip cock in the base of the crank case.

To those who think that absolute cleanliness cannot be arrived at attention is called to the earlier days of the pedal driven bicycles in comparison with to-day. In those days riders carried about with them a general condition of mussiness, while to-day light colored clothing is worn with impunity right through the season.

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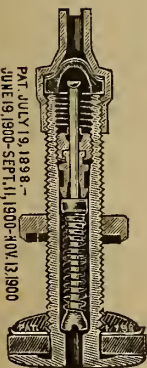
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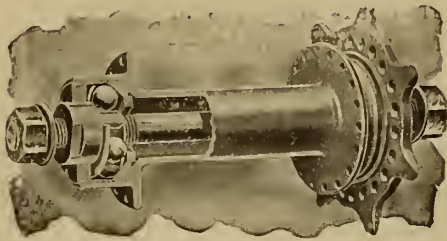
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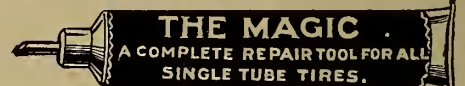
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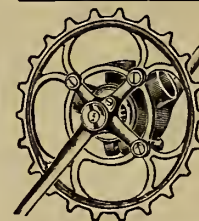
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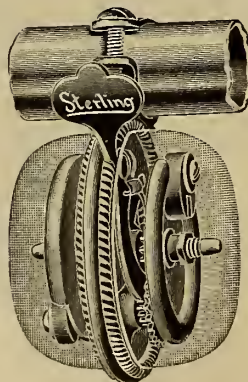
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The Bicycling World

AND MOTOCYCLE REVIEW.

In which is incorporated "The Wheel and Cycling Trade Review" and the "American Cyclist"

Volume XLIV.

New York, U. S. A., Thursday, February 20, 1902.

No. 21

TUBING TAKES A TURN

Shortage not Impossible, Another Advance in Price Practically Certain.

While it is known that the demand for steel of all sorts is so pressing as to cause embarrassment in some industries, and several cycle manufacturers have been among those who have felt the effects, the situation appears to be growing more acute and is not entirely outside the realm of possibility that a shortage of tubing may ensue.

The call for tubing from all directions is so great that despite the increase in price some of the mills are reported to be showing a disposition to sidetrack orders for bicycle stock in favor of those for the tubing that nets them more money.

The immediate future will decide the matter of shortage, but with that contingency in view the Bicycling World is able to state that a shrewd judge of events is figuring on bringing over a supply of imported tubing—something that has not been done in some eight or ten years.

Incidentally and in addition to the 20 per cent increase already made by the Shelby Steel Tube Company, another advance is in contemplation and is practically certain. That company will cease to make forksides, stays, etc., and will confine themselves entirely to straight stock, not cut to lengths. It will also be their policy to require cash against bill of lading, the credit system being abandoned.

Germany Still Gaining Ground.

German statistics indicate that that country's expansion of cycle exports and contraction of imports are being well maintained.

According to the figures for the eleven months ending with November, 1901, the imports have diminished from 7,388 cwts. during the same period of the previous year to 4,838 cwts., and of these 78 cwts. were motorcycles. Of the ordinary cycles, 1,584 came from the United States, 1,018 from Austria, 646 from Belgium, 618 from France and only 408 from Great Britain.

During the same period the cycle export

has increased from 29,818 cwts. in 1900 to 33,932 cwts. in 1901, and among these are 300 cwts. motor cycles. Great Britain took 3,350, France 1,748, Belgium 2,394, Denmark 3,756, Italy 1,416, Holland 5,406, Austria 4,096, Russia 2,746, Sweden 2,826, and Switzerland 3,064 cwts. Only Belgium, Austria and Argentine diminished their quantities; all others increased.

Hunt Again in the Saddle.

The Hunt Mfg. Co., of Westboro, Mass., is to be reinstituted, or rather a new company under the old name, and which will use the old Hunt factory, is in process of formation. The interested parties are J. A. Hunt, F. W. Forbes and J. E. Weatherwax. They will manufacture leather goods and specialties. Before the Hunt interests were absorbed by the American Saddle Co. the Hunt bicycle saddle was a rapidly increasing factor in the trade.

Hart's new Berth.

Howard S. Hart has been elected vice-president and general manager of the Russell & Erwin Co., of New Britain, Conn., one of the largest manufacturers of hardware specialties in the country. Mr. Hart has a large acquaintance in the cycle trade, having for years been the general manager of the Hart & Cooley Co., of South Chicago, Ill., who were absorbed by the American Bicycle Co. at the time of its organization.

White to the Front.

One of the Shelby steel tube men who has developed since the absorption of the company by the United States Steel Corporation is H. S. White, who has been made assistant general sales agent. He was at one time connected with the Pope Tube Works, and later occupied a minor position in the Shelby office in New York.

Wood Goes to Detroit.

Charles E. Wood, former superintendent of the Pope Tube Co., of Hartford, Conn., and for the last year located at Toledo, Ohio, as manager of Factory D of the Shelby Steel Tube Co., has resigned that position. He will assume the superintendency of the Seamless Steel Tube Co., of Detroit, Mich.

UP TO THE JOBBERS

Invitations Issued for a Meeting at Utica—State Organization Possible.

It is extremely probable that before the close of the current week it will be known definitely whether or no the jobbers of New York State are as anxious to get together for mutual self help and correction of abuses and grievances as some of them have made believe.

The effort in that direction, that is, the effort to form an association of jobbers, assumed tangible form late last week, when a call, invitation or suggestion of a meeting for the purpose of organization was mailed to those whose interests are involved.

The communication suggested Utica as a central point for the proposed meeting and February 26 as a convenient date.

When Johnson "Makes Good."

The Johnson Wheel Co. has been organized at New Orleans, La., with \$1,000,000 capital, and a plant will be established there at an uncertain date fixed at "as soon as certain conditions have been complied with." The company has bought from J. N. Johnson the patents on a spring wheel for bicycles and automobiles, etc. The officers of the company are Albert Mackie, president; J. N. Johnson, vice-president; E. H. McFall, secretary. Mr. Johnson is from Hattiesburg, Miss.

Asks \$5,000 for Spoiled Face.

Because of injuries alleged to have been received while in the employ of the defendants, E. J. Kronsberger has instituted suit against the Canada Cycle and Motor Co., of Toronto, for \$5,000 damage. The injury was received in a rather unusual manner, a wrench which was caught in a revolving machine at which he was working being thrown into Kronsberger's face, disfiguring him for life.

Royal to Remove to New York.

The Royal Motor Works will shortly remove from Chicopee Falls to this city. The lease of the New York premises will probably be executed within a week.

RECORD BREAKING YEAR

Patent Office Report Shows Increase of American Ingenuity—Connecticut Leads.

According to the annual report of the Commissioner of Patents, there were received during 1901 43,973 applications for mechanical patents, 2,361 applications for design patents, 115 applications for reissues of patents, 2,410 applications for registration of trade marks, 1,064 applications for registration of labels and 233 applications for registration of prints.

There were issued the record breaking total of 27,292 patents, including designs, 81 patents reissued, 1,928 trade marks registered, 878 labels and 159 prints. The number of patents that expired was 19,147. The number of allowed applications awaiting the payment of final fees was 8,369. The number that were forfeited for non-payment of the final fees was 4,111. The total expenditures were \$1,297,385.64. The receipts over expenditures were \$152,012.52. The total balance to the credit of the Patent Office in the Treasury of the United States on January 1, 1902, was \$5,329,471.07.

In proportion to population more patents were issued to citizens of Connecticut than to those of any other State—1 to every 1,198. Next in order are the following: District of Columbia, 1 to every 1,296; Massachusetts, 1 to every 1,472; New Jersey, 1 to every 1,572; Rhode Island, 1 to every 1,581; Colorado, 1 to every 1,718; New York, 1 to every 1,773; California, 1 to every 1,959; Illinois, 1 to every 1,984; Pennsylvania, 1 to every 2,221; Ohio, 1 to every 2,417; Washington, 1 to every 3,012; Michigan, 1 to every 3,198; Delaware, 1 to every 3,298; Oregon, 1 to every 3,308; New Hampshire, 1 to every 3,776; Indiana, 1 to every 3,812; Missouri, 1 to every 3,840; Wisconsin, 1 to every 3,903; Iowa, 1 to every 3,908; Maryland, 1 to every 4,013; Montana, 1 to every 4,055; Minnesota, 1 to every 4,199; Maine, 1 to every 4,480; Vermont, 1 to every 4,707; Utah, 1 to every 5,031; Nebraska, 1 to every 5,151; Idaho, 1 to every 5,578; Kansas, 1 to every 5,905; Nevada, 1 to every 6,047; Arizona Territory, 1 to every 6,470; Wyoming, 1 to every 6,609; North Dakota, 1 to every 7,092; West Virginia, 1 to every 8,125; Oklahoma Territory, 1 to every 8,298; New Mexico Territory, 1 to every 8,491; Texas, 1 to every 8,993; South Dakota, 1 to every 9,338; Virginia, 1 to every 9,657; Kentucky, 1 to every 9,849; Florida, 1 to every 9,972; Tennessee, 1 to every 10,415.

The fewest patents granted in proportion to the number of inhabitants were in the following States and Territories: Alaska Territory, 1 to every 31,796; South Carolina, 1 to every 28,517; Alabama, 1 to every 22,300; North Carolina, 1 to every 18,386; Mississippi, 1 to every 18,038; Indian Territory, 1 to every 17,820; Georgia, 1 to every 14,874.

As to foreign patents, 1,045 were granted to residents of Germany; 986 to those of England; 376 to those of Canada; 306 to

those of France; 156 to those of Austria-Hungary; 56 to those of Switzerland; 55 to those of Scotland; 54 to those of Belgium; 53 to those of Sweden; 37 to those of Italy; 35 to those of Victoria; 30 to those of Denmark; 29 to those of Russia; Ireland and New Zealand, 25 each; New South Wales and Norway, 20 each; 19 to those of the Netherlands; 11 to those of Mexico; 9 to those of the South African Republic; 8 to those of South Australia; Argentina and Queensland, 5 each; Cuba and India, 4 each; Colombia, Egypt, Roumania and Western Australia, 3 each; Cape Colony and China, 2 each, and Algeria, Bermuda, Brazil, Jamaica, Japan, Java, Jersey, Peru, San Salvador, South Africa, Spain, Turkey and Turkey in Asia, 1 each.

How to use a Monkey Wrench.

While almost every man fancies he knows how to use a monkey wrench, an extended



discussion of the subject in a mechanical journal in which differing opinions are expressed indicates that all men do not agree. The majority of people will, however, be willing to accept the decision of such an experienced man as F. C. Billings, superintendent of the Billings & Spencer Co., who gives it as his opinion that "the proper way to use the wrench is to 'push down'; the way to ruin the usefulness of the wrench in the shortest possible time is to 'pull up.'"

"Our reasons for the statement," he adds, "are that the reliability of the wrench depends wholly upon part 'A' (shown by accompanying illustration) being firmly and securely held in its proper place. In the ordinary wrench the most essential feature is the ability of the bar 'B' to withstand a bending strain. If you 'push down' the bar is reinforced by the sliding jaw and the adjusting screw, which are fundamentally held in place and supported by the part 'A.' If you 'pull up' there is no support to the bar, and if the bar is bent, the part 'A' is drawn away from its support of the adjusting screw, and consequently the jaw slips away from its work, the utility of the wrench being thereby destroyed."

Plaintiff Gets a Six-Cents Verdict!

The Delaware Superior Court last week heard the long pending suit of the Wilmington Cycle Co. vs. Griffin Rash. After Graham Taggart, a bookkeeper for the company, had testified that Rash obtained a bicycle, agreeing to pay \$38 for it, on weekly instalments, but ceased making payments after the amount had reached \$30.75, the case went to the jury, which promptly returned a verdict of six cents damages for the plaintiff. The cycle company went out of existence about a year ago.

Judgment for \$204 in favor of the Acme Cycle Co. vs. Philip A. Williams, jr., and Walter G. Morse was entered in New York this week.

VETERANS SWAP STORIES

Some Interesting and Amusing Experiences Related by Those Most Concerned.

Whenever the New-York trade veterans who comprise the Metropole Cycling Club get together, there is usually some tall swapping of yarns and experiences.

After a recent meeting, a party of them fell to relating incidents of the sort, a beginning being made by one man who remarked the amusing, if aggravating, ignorance displayed by some of those who have motor bicycles. He instanced the case of a dealer in Colorado who, after warm condemnation of the machine, returned it to the factory in the East for examination. When it arrived it required less than five minutes to discover that the only thing the matter was that the batteries had been exhausted. The dealer paid something like \$10 in express charges for his ignorance.

"It reminds me of one of the things that happened in the early days of the pneumatic tire," rejoined Charles E. Miller, who was not then as now a well known jobber. "We had an argument with a dealer in Baltimore (he gave his name) about a punctured tire, and finally to settle the matter told him to send it on for examination. He was evidently anxious to save express charges, so what do you think the fellow did?"

No one ventured a guess.

"I'll be danged," went on Miller, "if he didn't cut out of the tire the piece in which the puncture was located and sent it to us by mail."

Miller did not crack a smile as he said it. "One of the funniest experiences I ever had," said M. L. Bridgman, who now has a cycle store of his own, "happened when I first went on the road for Gormully & Jeffery. I was new at the business and felt that I must do exactly as I had been instructed. One of the things I had been told to do was to collect an account from a small dealer in a small town in New-Jersey. When I got there I found that the young fellow's 'store' was his residence, and that about all he owned was a rusty full nickeled ordinary. He had taken it apart to have it renickeled, but I told him resolutely that I must have it to satisfy the indebtedness, and he finally agreed to turn it over.

"We hunted up all the parts, put the machine together and then discovered that we had no crate. He said he didn't know where one was obtainable or where we could get wood enough to make one. While I was cudgelling my brain, my eye lit on the picket fence that surrounded his house. I suggested that the pickets would serve very nicely, and as he offered no objection, I began tearing them off. He helped me and we made the crate and finally got the bicycle to the express office.

"I have to laugh whenever I think of the

incident. I suppose it was the first time a bicycle drummer ever tore down part of a man's home to collect an account."

The veteran Will R. Pitman, who was present, recalled Bridgman's best customer and Bridgman's eyes took on a longing look. The customer it transpired was a wealthy New-York cracker manufacturer named Brinkerhoff, who had a peculiar fad, that of presenting bicycles to all his friends, or to any one to whom he took a fancy. In one season he gave away nearly 200, and Bridgman estimated that in all he had purchased some 400 of him.

The Love of Money.

If you love sand better than anything else you will seek the desert and revel in the monotonous wealth of it.

Conversely, if you live in a desert you may grow to love its sands.

A man may love this world's goods and for the sake of wealth seek the mad markets where all are struggling to the like end.

It is right and proper to desire a competence, and the business world is the place to go for it. Once within its excitements, its problems, its allurements, its promises, its engrossing cares—what then? Groveling on hands and knees, with eyes eagerly bent on the "love" of money—will you dig this "root of all evil" and never look up to the blue sky above, nor see the beauties all around?

There were evil enough in the love of money if it did no more than this: rob a man of interest in mankind; cut him off from the social privileges and countless blessings that lie beyond the cold glitter of gold, and hold him back from progress—from growth of soul, mind, even of the body.

A boy starts out in a fair field, with bright mental equipment, of a broad and generous mind. Let him be wedded to money making—and what happens?

He can find "no time" for self-improvement. He grows narrow and prejudiced. He must of necessity also grow selfish. Unless "it pays" he wants no part of anything. Unless he "sees a dollar in it" he cannot enter an attempt of any kind.

His brain grows calculating, his heart grows hard. He becomes a clod, a tripping stone to the teeming millions who busy themselves with the real world's work, doing it in the spirit which feeds the mind and expands the heart.

I pity the man who loves money—instead of the invisible things money buys, says the writer who voices these opinions. We all put ourselves within the reach of temptation when we go amid the money making machinery.

But with realization of the truth, the self-admission that "money isn't everything," we may safely labor and acquire—acquire for use, not for storage

Canfields at \$3.

The Canfield Brake Co. has reduced the retail price of its coaster brake to \$3. As will be recalled, the Canfield is the detachable and not of the hub contained type.

COMIC OPERA PEACE

German Makers and Dealers Settle Their Long Standing Differences—The Terms.

After four years of unceasing warfare peace between the German Cycle Dealers' Association and the German Manufacturers' Union is in sight—peace on opera bouffe terms.

The cycle show has been the chief bone of contention between the two organizations, the dealers favoring it and promoting one annually, and the manufacturers as resolutely opposing it. Since the fight started the ranks of both sides have been considerably thinned, and with the thinning came desire for peace.

Overtures to that end led to the appointment of an arbitration committee, and it is this committee that has presented a comic opera "treaty" for ratification. On their part the retailers' association declines to abstain from cycle shows, but they agree that no bicycles or anything relating to bicycles will be exhibited at such shows! It is stipulated that the affair shall be styled the Cycle and Motor Show, but the ridiculousness of such a title while cycles themselves are barred does not appear to have occurred to the peace commissioners.

In return for this extreme liberality the manufacturers' union agrees to permit the retailers to advertise in their official organ.

The entire situation is worthy of typical Hibernians rather than Germans, and the terms of peace are rendered the funnier when it is recalled that a year or two since the manufacturers offered the retailers a substantial sum of money if they would agree to desist from cycle shows.

The real cause of the war appears to have been the jealousy or fear of foreign competition that filled the German makers. They boycotted any paper that accepted the advertisement of a foreign bicycle, and refused credit to any dealer who handled such goods. They opposed shows apparently for the same reason; they not only did not desire that their countrymen have an opportunity of reading of the imported article, but were even more anxious that they have no chance to see it.

On Doing One's Best.

There's many a truth spoken in jest, we say, but the fact is, underneath anything really appealing—on the funny side or any other—lies some truth.

We lose force when we hit nothing, says the Business World. The man who wrote the following verse stated a truth. By skillful word juggling it appears sarcastically funny:

Who "builded better than he knew"
Was not exactly skilled
In building tricks, for builders now
Know better than they build.

The writer meant building with stone and brick; but the same thing may be applied with equal force to all the world's workers,

mental as well as physical. He who puts thought into any visible form "builds." Often he builds better than he knows, but oftener he knows better than he builds.

There's a human weakness that permits—yes, encourages—one to allow work to pass from his hands before it is perfectly well done. He could nearly always "build better" if he would. His ideals stand clear and strong—there's no excuse of mental blindness—but from some cause he doesn't strive long and hard to realize those ideals. He is for the most part content to "know better" than he "builds."

What is that cause?

Is it "mental laziness"? In many people it seems to be that. In others it is lack of conscience. They are loosely satisfied with indifferent results if those results "will do."

Sometimes we go along the slippery, sliding path of mediocrity from lack of sufficient interest to investigate the cause of poor or indifferent success. "Nothing is good enough that can be made better."

Until we have done our best, we have failed to do. Any effort short of the complete is effort made simply to put the real task away from us. To continually dodge the duty of the supreme endeavor is our daily habit. To meet each case in the opposite spirit would add to our success-equipment.

Wise are we if we'll try to do our best in all work, satisfied that we do not "know better" than we build, but confident that we shall continually build better than we know.

Thomas's new Factory.

Since their original decision to build a factory of their own, the E. R. Thomas Motor Co., of Buffalo, have considerably enlarged and elaborated the plans of the plant.

Instead of a one story building of comparatively modest dimensions, the building will be a two story structure, 155x120 feet. Pressed brick, stone and iron will be used in its construction. The new plant, which is already under way, is located on Niagara street, near Ferry, and close by the Niagara River. It affords some splendid views of not only that river, but Lake Erie, Canada and the Erie Canal. The plant will be lighted by electricity, generated by a gas engine, and will be equipped, of course, with the most modern appliances for the construction of motors and all that pertains thereto. The factory will be so arranged that a motor will start in the rough at one end and come out completed at the other end.

The ground on which the plant is located is saturated with history, having been at one time the location of the home of ex-President Cleveland, and previous thereto was the home of a number of other prominent Buffaloes.

"A business man keeps his purchase prices to himself. You are a business man, so you will keep this price list out of sight," is the superscription on a New England discount sheet which has just seen the light.



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SAN FRANCISCO,
114 Second St.

THE BICYCLING WORLD

FOUNDED 1877
and MOTORCYCLE REVIEW

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To Facilitate Matters Our Patrons Should

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NEW YORK, FEBRUARY 20, 1902.

"Openings" and Their Opportunities.

While the semi-blizzard of the week which prevailed throughout the East and buried the country under a heavy mantle of white makes the term "opening day," as applied to the cycle trade, rather a mockery, the day, February 22, will be, as usual, observed in many places in New England, in particular, weather or no weather.

Though atmospheric and underfoot conditions may militate against February 22, or against any other day that dealers may fix upon for "openings," the most should be made of such occasions.

The trade should know how to put its best foot forward, but in doing so the mouth should not be forgotten. For it is out of trade mouths that much injury to cycling interests have come.

People will congregate at "openings" and people will talk. The altered state of the trade—the difference between the present and the days of the boom is sure to be a fruitful subject for discussion, and the deal-

ers who value their own interests should see to it that their employees talk cheerfully and reasonably when occasion presents. They should not be permitted to indulge in or carry along prattle about the "collapse of the bicycle industry," the slump, "passing of the fad" and other thoughtless rot of the sort. They should be instructed rather to lose no opportunity to point out and dilate on the difference between the normal and the abnormal, the rational and the irrational, the epidemic and the healthful growth of trade or demand for a particular article. They should seek to show people that in the light of to-day the bicycle boom was one of the most unfortunate visitations an industry ever experienced, and that the thoughtless comparisons made by most men and papers are unfair and untrue.

We are not certain but that a few show cards bearing sentiments of the sort and prominently displayed would not prove a happy thought and do much to turn the public mind in the proper channel. The idea is full of possibilities and is worth consideration.

But show cards or no show cards, "opening days" or ordinary days, the thing is to talk cheerfully and hopelessly and to spread the spirit. When people visit a house of gloom they partake of the gloom. When they enter an atmosphere of light and good cheer they are similarly infected by it. See to it that you do your share of such infecting.

On the Porch of Oblivion.

It cannot be said that the result of the Torrington meeting and of the annual election of the League of American Wheelmen last week offers any great promise of renewed strength, activity or usefulness on the part of the organization.

The officers chosen have been identified with the star chamber, do-nothing policy that has ruled for the last two years. They were the lieutenants of the greatest "I am" who ever filled the presidential chair, and as he and they did nothing but talk and keep the League's light hidden under a bushel, it would be unfair to expect that his former colleagues will change their spots merely because he has left them. We would that we might express a contrary belief, but the records of the past and the promise of the immediate future do not permit of it.

The dominating chord of the Torrington meeting appears to have been "reduce expenses"—to prepare for further contraction rather than for expansion. We cannot find

that anything whatsoever was done that makes for a renewal of interest or activity. True, the secretary's salary was placed on a per capita basis—ten cents per member—in the belief, we suppose, that he must get out and hunt up members to earn a living income for himself. But as the secretary must necessarily spend his ten cents in the effort the ridiculousness and impossibility of the situation is apparent.

The results of the meeting were distinctly disappointing. It afforded an excellent opportunity, but the only suggestion that promised a new order of things was permitted to die aborning and to all appearances solely because it would be a blow at the pride and titles of a handful of State officials.

The League's only hope now rests not in its policy, but in its men. If the men—the national officers—are able to belie their past, if President Howell and Vice-President Belden will but do more than talk and write letters in their offices—if they will plan something and carry it out and appoint committees that will do as much or that will be removed if they fail to work, then there is hope and a future for the organization.

If they permit men and things to merely drift as has been the case for two years or more, the door of oblivion, on the porch of which it already stands, will surely open for the League.

Will Messrs. Howell and Belden rise to the occasion?

Importance of Lubricating Oil.

A condition and not a theory that confronts the users of small air cooled motors is the ability to procure suitable lubricating oil for the piston and cylinder. Let the average purchaser go to a dealer in lubricating oils and tell his wants and the chances for having them intelligently filled are particularly minor.

It is not that the dealer is given to chicanery for the love of it that prevents his doling out the proper article, but because he is really without experience, and more than all because he would find it hard to procure the goods, even if he were wise enough in advance to prepare for the coming demand.

It is just here that the opportunities present themselves to a live compounder of oil to get up a suitable article, for the rapidly increasing numbers of small air cooled motors, that can be marketed as a staple article under a brand that can be made synonymous of quality and suitability. It

is an opportunity open to some one in the trade.

Not only are the users of these particular motors in this position, but the makers themselves have to labor most strenuously with their oil merchants to supply them with an oil that possesses the necessary combination of high flash point and viscosity.

Growls That Mislead.

While only grunts and growls of dissatisfaction have reached the outside world from the German cycle trade, it is remarkable that despite the pessimism Germany has been steadily increasing its export trade, and, unfortunately, at the expense of the United States. It passed, first, England, and, last year, ourselves, and is now in first place. It is well, therefore, not to place too much faith in the reports of German discomfiture.

Writing to an English paper on the subject, a German correspondent sounds a caution on that score.

"That the slump exists is not denied," writes he, "but in its exaggeration lies a danger, because it implies that one of the most dangerous competitors would soon be bankrupt. When the German industries and the whole trade were at their worst point, at the beginning of the year 1901, only a few people drew attention to it; when improvements were noticeable, the sensation mongering press heard there was 'copy' to be made, and it did it by painting pictures which were accurate months ago, but are false at present. The Stock Exchange is considered a very sensitive organ. All cycle shares, on the average had fallen to half their original value, but within the last three months they have risen between 10 and 15 per cent, and an increase in value can be noticed from week to week. The Berlin Stock Exchange holds the largest stock of cycle shares of any of the German exchanges, and it shows the greatest confidence in the future of the trade. The worst point in the German cycle industry's slump has been passed; the collapse of the poor concerns cleared the air, and the whole outlook for the future is hopeful. It will require another year to remove all the effects of the bad time, but the worst is over, and a few firms have still to disappear."

In some respects—the export feature is not one of them—the situation is not unlike that which prevails in this country, save that our recovery is, if anything, slower. But, however that may be, the point is that Germany must not be despised as a factor in the

world's market simply because of the doleful wails that have arisen. The Tentons are crafty merchants!

Economy of Motor Bicycles.

Reports from the recent French tests of gasoline consumption in running motorcycles over the road without the use of pedals, furnish some very interesting data. According to the figures furnished by the officials, the motor bicycles made a truly remarkable record as to the cost of running.

The weights of the machines are not at hand, but taking the reasonable figure of 100 pounds, it shows that the amount of gasoline used would range at the rate of from one pint to one pint and a half for 100 miles.

Assuming the cost of gasoline to be 16 cents per gallon, this would mean that the bicycles could have been run 100 miles at a cost of from 7 to 10 cents for the journey.

This low cost is all the more noteworthy when it is taken into consideration that the running of the bicycles was carried on over roads made muddy by snow followed by a thaw. Just what this would mean as to road surface viewed from the standpoint of American muddy roads can only be conjectured, but admitting that what is considered as a poor surface in France would be looked upon with favorable eyes in this country, the results are marvelously conspicuous.

Unfortunately in this country we have no recorded data as to gasoline consumption of motor bicycles, and the only information at hand comes from the individual users who have taken interest in the matter and reported the results of their trials. From this source of information the amount of gasoline used in 100 miles over the average roads, varies from two quarts to one gallon.

The longest motor bicycle ride on record in this country was one of 1,000 miles, and during this ride five and one half gallons of gasoline were used. It should be stated in connection with this ride that it was made over roads abounding in hills, and that it rained for four days of the time, making the roads not only impassable in places, but a sea of mud for nearly 600 miles of the trip.

Earle and his Egotism.

It is not often that the head of a national organization publicly pictures himself as the whole organization. When he does so he makes a spectacle of himself and unfortunately places the organization itself in an undesirable light.

In its hour of travail the League of Amer-

ican Wheelmen could ill afford to have such light thrown on it, and the egotism of its late and unlamented president, H. S. Earle, has but served to hold up the organization to public ridicule.

The gem of his egotistical annual report which has "caught" the public press and is going the rounds and being laughed at wherever it goes, was printed in last week's Bicycling World. As a warning and for the moral it conveys, it is worth reproduction. It follows:

"I have not given the press half the news that I should, did they place it in the proper department. I do not care to have my name appear in the sporting columns. I have no associates in the slugging business and I am willing to acknowledge that I am not even 'next' to any race horse's chances, so that while I would feel honored in associating with a good, upright working horse, that keeps good company and votes and prays for good roads, I do not want to and I won't with the kind that goes or does not go which way is best for its owner and driver."

Earle's idea that he was the whole League is quite apparent. The implication that nothing concerning it could be printed without his name being tacked on is so intensely egotistical as to be sidesplitting; it was practically the only amusing feature of a mournful meeting. The suggestion that any one in the League or out of it can dictate to the press the position in which news or gratuitous advertising shall be placed could come from no one but this particular Earle.

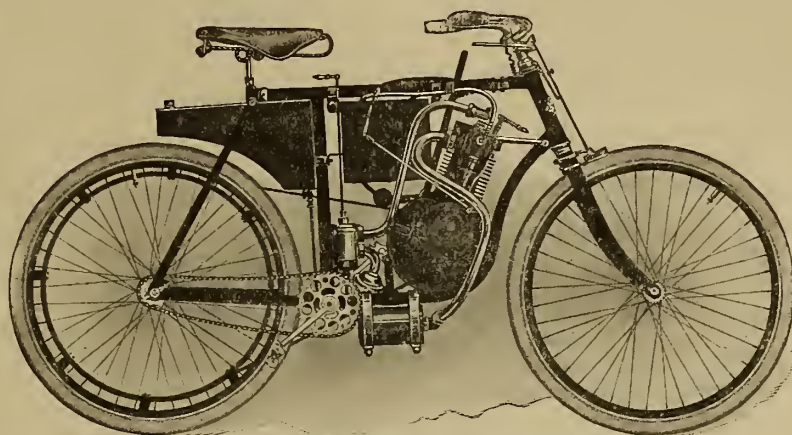
The League almost owes the newspapers an apology for his antics, which were really meant to excuse his policy of do-nothing. At any rate, it is to be hoped that the new president will be gifted with more common sense and power of reasoning, and that he will appreciate that the League needs publicity, and as much of it as can be obtained, no matter how, where or when it is obtained.

Now for the Overhauls!

Dealers and repair men should remember the proneness of human nature to put off anything to the last minute, and jog up the local riders to the needs of at once placing their machines in the shop for overhauling. Don't rest content with sending a circular or advertising in local papers; results will be poor from that procrastinating habit. Use the return postal card and only leave it to the possible customer to fill in a date when the bicycle can be called for.

ORIENT BICYCLES

A
Powerful,
Practical
Road
Machine



The
Best
in
the
World

ORIENT MOTOR BICYCLE, PRICE \$250.00

WRITE FOR HANDSOME NEW CATALOGUE

APPLY FOR AGENCY

WALTHAM MFG. COMPANY, WALTHAM, MASS.

There Was Never

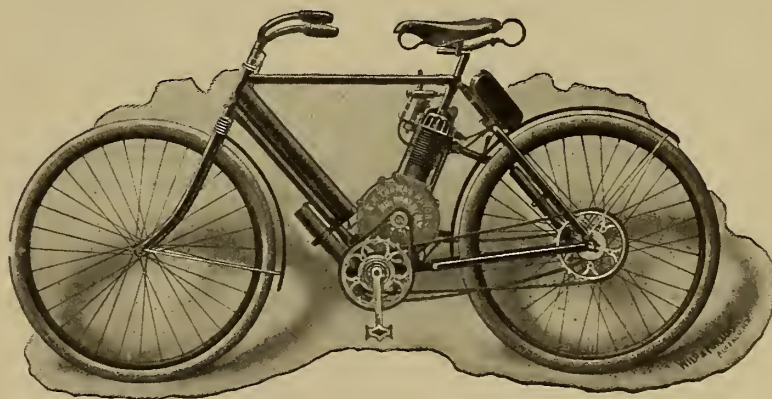
Any Question About the Leadership

of the

AUTO=BI

and the 1902 model
will simply serve to accentuate
its right to lead.

IT HAS ALL THE QUALITIES TO GO TO MAKE
A LEADER.



No man interested in motor bicycles and who consults his own interests can afford to "take on" any other
agency while the Auto-Bi is within his reach.

BUFFALO AUTOMOBILE & AUTO=BI CO., Buffalo, N. Y.

SUNSHINE IS SPREADING

How the Trade is Recovering Its Spirits— Reports From Many Sources.

While the voice of the pessimist is still heard in the land, the optimist is rising to the surface, and is increasing the good cheer and hopeful determination that are gradually taking possession of the cycle trade. Evidence to that end is accumulating daily.

"We are looking forward to one of the most prosperous bicycle seasons in years, and are already booking orders for early spring riding," Bert Davis, manager of the cycle department of the Manchester (N. H.) Hardware Co., is quoted by a local paper as saying. "This early business comes from the old and experienced riders, who in years gone by have profited by experience, knowing too well if they wait until the season opens up and then purchase a wheel, which is a little out of the regular equipment, it means at least three weeks before they get their bicycle.

"Our bicycle business during the season of 1900 went far ahead of any previous years, our sales being confined mostly to medium grade wheels. During 1901 our business was satisfactory, despite the fact that we had a bad season to contend with, it raining the larger part of the early season, and then came the intense heat, which kept a great many from purchasing. Our sales during this season were confined mostly to the \$50 grade, and we are proud to make the statement that we have recently been informed by an official of the American Cycle Mfg. Co. that during the season of 1901 we sold more \$50 grade bicycles than any other one house handling the American Cycle Mfg. Co. product in New England.

"To a great many the bicycle seems to have gone away back and sat down, but this is not true, as statistics will prove. To be sure, a number of bicycle factories have closed up, there being in January, 1902, only twenty-four factories which confined their output entirely to bicycles. This number of factories can supply to every man, woman and child in the United States a bicycle for every day in the week and one for Sunday, though less than one-sixth as many as there were in January, 1900. Some of these factories which are now doing business are manufacturing and putting on to the market as many as half a dozen of the smaller factories, which have been put out of commission, owing to their small output and a limited capital and so forth. This also applies to dealers with a limited capital who have tried to confine their business solely to bicycles throughout the whole year. When the riding season of 1902 opens up there will be more bicycles ridden right here in Manchester and throughout the country than

ever before since the advent of the silent steed."

"This spring promises to see a revival of the bicycle trade, and beyond a question more wheels than were ridden last year will be seen upon these treets," says the Camden (N. J.) Courier. "The activity in wheeling circles died in a hurry, and it promises at least in a measure, to revive as quickly. The Stockton Wheelmen, the oldest and most popular social organization on the side of the creek, will whoop it up for the return of old times. This club has always taken a lively interest in whatever concerned the wheelmen. To its efforts largely is due many of our paved streets. The club has in the past exerted considerable political influence, and there is no reason why the same influence cannot be brought to bear to secure whatever is needed in the direction of the wheelmen's pleasure as long as the demands are within the bounds of reason. Last year the club failed to have any runs to speak of, and for a time the interest was very much on the wane. This year, however, a very different state of affairs exists. The club meetings are largely attended and much more interest is displayed."

"Sports of all kinds are taking a large hold in Grand Rapids," W. S. Daniels, of Jarvis & Daniels, tells a Grand Rapids (Mich.) paper. "There has been far more skating this year than common. A good many people are coming into the store and saying that they must ride this year. Coaster brakes and cushion frames will be more popular than ever. Spring frames on high grade wheels will receive a great deal of attention. We expect to sell a large number of ladies' wheels this year. Club and moonlight runs will be popular. It is expected that a coaster run will be made to Cascade Springs and there will be contests in coasting.

"As to prices, there is not much change from last year. There are fewer shoddy wheels on the market now, people having learned that it doesn't pay to buy them, consequently the manufacturers have had to go out of business. Handle bars are more sensible and hygienic, so there is less of the bicycle hump."

America's Industrial Advance.

According to the statistics disclosed by the Census Bureau, the exact increase of America's industries since 1890 is as follows:

Number of establishments, 512,585; increase, 44 per cent.

Capital, \$9,853,630,789; increase, 51 per cent.

Wage earners, average number, 5,310,598; increase, 25 per cent.

Total wages, \$2,323,407,257; increase, 23 per cent.

Miscellaneous expenses, \$1,028,550,653; increase, 63 per cent.

Cost of materials used, \$7,349,916,030; increase, 42 per cent.

Value of products, including custom work and repairing, \$13,519,251,614; increase, 39 per cent.

OPINIONS OF BAKER

Texas Dealer and Traveler Reports Trade Upliftment and Offers Suggestions.

Editor The Bicycling World:

Will you please send me copy of The Bicycling World of December 5, 1901, mailing it to Baker & Rutherford, Paris, Tex.? You have a few verses in that number concerning mail order bicycles that I want to run in our local papers in Paris at least half a dozen times; think it will have a tendency to do trade some good.

I have been noticing The Bicycling World quite a good deal of late, and am convinced that you have a pretty good one for the bicycle trade. At one time I was very partial to the ———, and used to do quite a good deal of correspondence for it. But of late I have felt that it is going entirely out of my class, as I am a bicycle man pure and simple. Am at the present travelling salesman for the Excelsior Supply Co., and I note with no little degree of satisfaction that prospects for the future of the bicycle are universally much brighter than two years ago. In the wheel we all found a good friend, true and tried, and its relation to the automobile we might adequately express in this way: "Remember, dear, and bear in mind, a good, true friend is hard to find, and when once you have found one that is kind and true, never change the old one for the new."

And while I advocate the promotion of the automobile, I do not think it wise to lose sight of the bicycle. While the automobile may be a supplement to the bicycle, it can never take the bicycle's place.

ERLE K. BAKER, Chickasha, I. T.

About Cyclometers for Coasting.

Editor The Bicycling World.

Concerning your suggestion of a cyclometer devised to register the mileage coasted on machines fitted with coaster brakes: Last season the New Departure Mfg. Co. furnished a Security cyclometer on rear wheels which had flanges for straight headed spokes. This registered the number of miles coasted directly. Probably this could be modified to work on hubs with bent head spokes. The Veeder people ought to do it.

HARRY H. WHEELER, Pomona, Cal.

One Cause of Weak Sparks.

It is a noteworthy fact that in making wire connections on binding posts, where the wire is not provided with a soldered or other form of loop, few users bend the strand wire in the correct direction. The bend should always be made from left to right, then the tendency of the binding screw will be to wind the loop tight and make a firm connection. If the loop is made from right to left then the screw will not only open the loop, but spread the strands of the wire. The result will be a poor connection and a weak spark.

CONNECTING ROD CONDITIONS

Items That Enter Into Their Construction and how They Affect the Motor.

An item in the construction of small motors that presents many problems yet to be solved to a definite system is the method of connecting the crank pin and the piston pin. This subject also carries with it the construction of the two pins and their various connections.

The general practice with the connecting rod is to make it with an eye at each end as a part of the rod, and to bush these eyes. In a few cases the rods have had half eyes with detachable capped ends held in place by bolts, as copied from larger motor construction. These detachable ends have the advantage that the wear in the bearings can be taken up by scraping, but they present the disadvantage of bolts that will have to be locked in position to withstand the high speed tendency to work loose and come out, to the consequent extreme damage to other parts of the motor.

Where the solid eyes are used they are bushed with a tubular bushing of gun metal, phosphor bronze or hardened steel. In the use of the two softer metals they are reamed to diameter size and as nearly truly round as possible. With the hardened bushing it is possible to make them perfectly round, and to have pins passing through them equally true, by grinding. There are conditions, however, required that must be looked to other than perfection in a true outer periphery to the pins and a true inner periphery to the bushings.

The general conditions required can be summed up as follows: Reliability of metal used to insure freedom from breakages. Ease of access that the bearings may be readily taken care of when wear, either on the pins, on the inner walls of the bushings or on the ends of the bushings, takes place so that the back lash sets up noticeable pounding of the motor. Non-wearing qualities, to prevent as much as possible the possibility of this back lash, or lost motion, between the crank and the piston. And, of great importance, lubrication. Under certain conditions different metals work best together when considered in this connection.

Whatever metal is used, the bushing should be as wide as possible. Many makers have made errors in this direction because of inability to design, and motors have been turned out that had bushings no wider than the eye of the connecting rod. Gun metal has the advantage that it is easily worked, is low in first cost and comparatively easy to replace. Phosphor bronze presents the same general advantage, but has longer life. The steel bushing, hardened and ground true

to the pins, obviously gives the greatest durability and longest wear, all other conditions being equal.

These other conditions are those that mitigate against it, and while there are other items, the chief one is that of lubrication. With the softer metals lubrication by splash or churning is good, and there is little fear of overheating. With the steel bushing it is difficult to lubricate with certainty, and with poor lubrication it rapidly heats and cuts. One of the other conditions is that not only must the steel bushing have a perfectly true inner wall, but the pin which passes through must be equally true. Without these conditions the bearing will bind for all time, while with the softer metals they will give way. It is not to be understood that the softer metals are recommended because of this, as the fact that they would wear to a fit means that this wear would only keep up to bring about early pounding of the motor.



NEW YORK BRANCH: 214-216 WEST 47TH STREET.

In boring the holes in the crank eyes in which to fix the bushings too great care and exactitude cannot be used to get them dead parallel with one another and to have them at perfect right angles with the crank. In making the bushings the same exactness must be observed to insure the walls of each being of equal thickness all round and perfectly parallel. No matter how carefully the eyes may be bored, if the bushings are not exact the bearing will be imperfect. Equally true is it that with perfect bushings their value will be upset by angled boring of the eyes, and the longer the bushing the more it will be out of alignment.

If the motor is hard to turn over by hand the cylinder and head should be removed and the piston grasped by both hands to act as a crank handle to revolve the flywheels. If it is now found that the movement is stiff the remedy is obviously in the crank shafts, if the connecting rod works freely back and forth on both its bearings. Should the four bearings that are thus tested—the two on the connecting rod and the two in the

crank cases—be found free to move the trouble is to be found in one or the other, or possibly both, of the connecting rod bearings when the piston is confined to the walls of the cylinder. It is assumed that the cylinder and piston are without fault.

It may be found that both connecting rod bearings have some play, and the thought may come that, this being the case, they will offset one another in working. This might hold generally true, but there will be occasions when they will work against each other to bind the piston in its travel. If only one bearing is loose it, of course, needs renewing, and the above mentioned care in the matter of alignment, etc, must have careful attention.

If neither bearing is loose, or if after a new bushing is put in place the motor runs stiff with the cylinder and head reassembled, then a thorough overhauling is necessary. Time can be saved in this operation, if the single bushing replacement has been at the flywheel end, by examining the pin joining the two flywheels. It is rare that this is at fault, particularly in motors made by reputable makers, but occasionally the trouble will be located at that point. The same can be said of the pin in the piston, but it will always be well to examine either of these pins when replacing its bushing.

With both pins in good condition, and both bushings working properly on these pins, the influence from this direction on a hard running piston is traceable to a bent connecting rod or to bushings or eye holes that are out of alignment. If the connecting rod has not become bent in use it is quite possible that it may have been given a kink by the last assembler. This kink may have been made accidentally or it may have been made purposely to bring things into line for easy working from one or more of various causes.

In explaining the following causes and methods used to overcome them it is understood that they are not recommended, but treated from the standpoint of conditions as found.

If the two pins are not parallel, but all the connecting parts are, the bending of the rod or the twisting of it will bring the bushings into compensating positions. It may be that the assembler found the pins in true parallel, but that one or both of the bushings had a thick side, or were reamed off to one side, or were tilted in putting into the connecting rod. These conditions may be the excuse offered by the assembler. If all these were perfect, then the eyes in the rod may have been drilled on a slant. Drilling the holes off centre would have no effect in this connection, and would only slightly alter the stroke. Any of these conditions may have been the occasion that influenced the assembler to give the crank a bend to one side or a partial twist to bring all the bearing points into proper relation.

Of course, these are makeshift methods that are not sanctioned by the makers of small motors, and that only add to the troubles of those who come into contact

with them for any after fixing up. There is only one correct thing to do under any of the above circumstances, and that is to replace each defective part with one that is correct in every particular.

While on this subject, attention should be called to the fact that a pound in the motor does not always come from some one of the above causes, but may be occasioned by a loose crosshead pin in the piston. In some small motors a taper fit is depended upon to hold this pin in position, and as this pin is usually a trifle shorter than the diameter of the piston there is a chance for it to eventually work back and play in its holes in the piston walls. Piston pins are frequently cut square across, and when so made, and they become loose, there is a possibility that when they work out of their seating the larger end may score the walls of the cylinder.

If the pin is not locked in position—and whatever means is used as a lock should be provided with some device for positively holding it from working loose to create havoc—it might be a good method to have the pin in length equal to the diameter of the piston so that it could not work endwise, and to prevent scoring the cylinder walls in case it should turn part way around, the ends could be made half spherical in shape in place of circular one way by square the other, as would otherwise be the case when of full piston diameter length. The curve of the half sphere would be made from the same radius as that of the inner walls of the cylinder.

The subject of lubrication, as a whole, could be dealt with to any length and hardly be overdone, so important is it, and magnified in the case of the small motor. That its effect on the parts under consideration may be understood it will be here treated of generally.

The first effect on the oil, of course, comes from the high heat of combustion. After the motor has run for a time this is added to by the heat developed from the friction brought about by the high speed at which the piston travels. To insure perfect compression the piston must be a good fit, and as soon as lubrication fails the piston friction heats the cylinder walls with a consequent expansion that the radiating fins are unable to cope with to hold down to the work for which they have been nominally designed.

To guard against this it should be recognized that any kind of cylinder oil will not do for these small motors. Any attempt at economy in this direction is misplaced, when it is remembered that not only will there be trouble from oil charred valves, but there will be an exaggerated wear and tear on the motor and frequent loss of time in cleaning, if not general overhauling. Whatever brand of oil is used it should be mineral oil, and have a high flashing point to prevent its burning readily. A price should be paid for it that will entitle the buyer to this quality, and, having paid the price, the seller should be made to live up to these conditions.

The Man who Can't be Seen.

"Can't be seen."

Is this the answer a caller gets at your office when he seeks you in a business way?

Have you hidden yourself in the deep recesses of some inner office that is inaccessible to any but the favored few who can face the awful process of getting by the outer gates and the several minor barriers?

Have you established a sentry with a mental gun over his shoulder—so to speak—with orders to slay the majority of callers and admit but one in eight hundred, and then only when bribed or bluffed?

Have you decided within yourself that you are such a busy man that you can't be disturbed by visits from other people unless perchance they bring orders or bank drafts? That you are prospering by the use of the time thus saved to you?

Vain thought; vain hope; empty conclusion; false position!

You're all wrong if you are "inaccessible."

Your business should concern itself with many of these same callers. They bring you something with every interview, if you so permit. You should seek contact with people who request it, if they have business which is at all proper. And how can you decide that unless you meet them at least briefly? In many cases you can't.

We know of "big men" who put a pompous servant in front of their doors whose duty appears to be that of protecting the man inside from not only any but all interruption from the world, says an exchange. We know of actual business being lost to these men from the refusal to admit others. This was not the fault of the man at the door, but of the man behind the door! He engaged the other and instructed him.

Why, bless your heart, one may get audience with the President of the United States more readily than with the president of some banks, or heads of gold brick factories, or incorporated charcoal burners!

And the greeting from Teddy will be more gracious and kindly, more encouraging and valuable, too, oftentimes.

We suppose you know how hard the publications strive to get into "personal touch" with their readers. They acknowledge the value of it and open departments, answer questions, welcome communications from every possible source, to this end.

The secret of popularity and success in many a business house may be traced back to the "accessibility" of the heads of it. Thus do they keep close in touch with the needs and demands and views of customers.

We don't advocate giving audience to the umbrella man and the errand boy with a bill to collect, with the impecunious widow who is canvassing for a book, or the insurance agent who has a new patent and profitable way to meet death, but we do urge that the door be left at least unlocked and entrance given freely to every one with a legitimate case, claim, complaint or errand.

Don't be afraid people will see you and talk with you.

We can't understand such a feeling. We can't understand why any business principal can fail to recognize the visit of an honest caller as an opportunity to be used. It is from such "opportunities" that discerning minds get suggestions for improvement in methods, ideas for development of trade, hints that will enable him to meet changing conditions. If he isn't a discerning man—well, in that case he may just as well crawl into his cave, handle the things of the world with tongs and whisper across telephone wires his proud but mossgrown messages. In that case we say, let him sleep.—Ex.

Cole to Enlarge.

The value of making goods in any allied industry so much a standard that they are recognized wherever specialties are called for or used, has probably never had a better illustration than in the constantly increasing output of the 3 in 1 and other goods bearing the brand of the G. W. Cole Co.

In fact, to such proportions has the business of this company reached, they have outgrown their present factory facilities, and ground has been purchased and plans are now being worked upon for a building to be erected this spring that will enable the company to take care of the constantly growing demand from the jobbers in this country.

Almost a Cycle Show.

The "Tri-State Automobile and Sporting Goods Show," which occurs at Detroit next week and of which the well known W. E. Metzger is the chief promoter, will come pretty close to being a cycle show as well. The Kirk Mfg. Co., Bretz Cycle Co., American Cycle Mfg. Co., Hartford Rubber Works, Goodyear Tire and Rubber Co., Fisk, Rubber Co., Diamond Rubber Co., G. W. Cole Co., Barwest Coaster Brake Co., Frank Mossberg Co., Badger Brass Mfg. Co. and Twentieth Century Mfg. Co. are among the exhibitors. In addition, nearly all the Detroit dealers will show the bicycles for which they are agents.

The Morrow Abroad.

It is rare that an article earns such world-wide recognition as the Morrow coaster brake has earned. It is almost as well known abroad at home, and has made Elmira, N. Y., known where it otherwise never would have been heard of. In England alone it is being fitted to practically every bicycle that is manufactured there: Humber, Triumph, Premier, Swift, Coventry, Osmond, Riley, Hobart, New London, James, Raglan, Monopole, Progress, Hawley, Bard, Starley, Sanspariel, Mohawk, Gloria and Imperial.

Bearing Company With \$900,000.

The Wright Taper Roller Bearing Co., with capital of \$900,000, has been incorporated in Buffalo, N. Y. They have purchased the patent of W. Hamilton Wright on an anti-friction taper roller bearing for automobiles, bicycles, etc., and will construct a plant for its manufacture.

RACING

As a result of Victor Breyer's recent visit to this country, Paris is to have one of the small bowl shaped wood tracks which are now the vogue here; it will be three laps to the kilometre.

William C. Stinson sailed yesterday for a two-months' invasion of European tracks, having accepted the terms offered by Victor Breyer. Stinson will return in time for the racing season in this country.

For the first time motor bicycles will be permitted in the great Paris-Vienna automobile road race, which occurs in June next. They will constitute a special class, and must weigh less than 120 pounds, the rule making that weight the maximum.

Tricycles as pacing machines have been barred from the French tracks. The same decision fixes a maximum width and height for pacing tandems and requires that motors, tanks and all other appurtenances shall be fixed between the front and rear seats.

At Aix la Chapelle, Germany, what is described as "some novel racing" is fixed to occur during the current month. The "novelty" consists in the competitors riding "stock machines with big sprockets on the driving wheel and small ones at the crank bracket." Just what object is to be served is not made plain.

A. O. Sinclair, of Springfield, Mass., who during the activity in bicycle racing in that city was in charge of the Hampden Park track, died on last Thursday at the age of seventy-five. He was especially popular with all the racing men who participated in the Springfield tournaments, and took special pride in the excellent surface of the track. Mr. Sinclair was widely known as "Sandy."

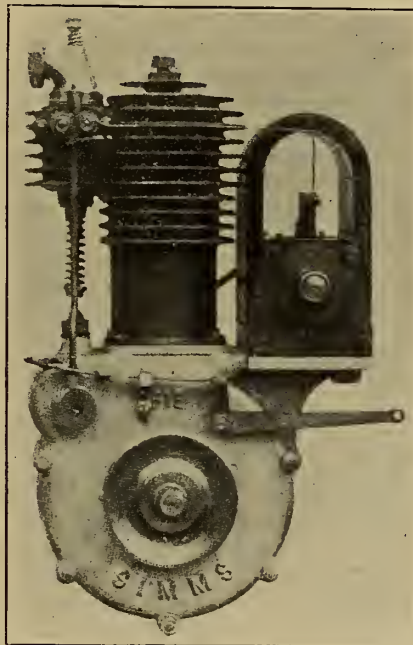
According to press dispatches John S. Prince announces that he has made arrangements for a bicycle circuit, composed of Atlanta, Savannah and Jacksonville, and that he will give one night's racing weekly in each of these cities during April and May. New tracks will be built in Savannah and Jacksonville. Prince will go to Savannah immediately after the finish of the six-day race which begins in Atlanta on February 24.

Jimmy Michael sailed for Paris on Tuesday last. Having again renounced the bicycle, he goes abroad to join the ranks of French jockeys. As an American jockey he proved a failure, but he explains his persistence by stating that at best he could remain a cycling crack but a year or two longer, while as a jockey there is no limit to his usefulness. It is estimated that during his cycling career Michael won some \$200,000, which as a gross amount is probably nearly correct. Most of it he lost in "playing the ponies," in which he is still enapt.

The opening bicycle races at the Coliseum track, Atlanta, Ga., February 17, were brought to a sudden end owing to the failure of the electric lights to perform their functions. In the midst of the twenty-five mile professional race darkness came suddenly. Rutz, Leander, Galvin, Barclay and Russell Walthour, brother of Robert Walthour, collided. Several were hurt, but none seriously. The race was called off. Lawson gave a two-mile exhibition on a motor bicycle, doing the mile in 1:26, and the two miles in 2:56, very fast time. Before the lights went out Leander won the mile professional handicap in 2:07 4-5. Rutz was second and Hatfield third.

Bicycle Motor With Magneto.

There are probably but few having had actual experiences of any extent in motor bicycle construction who have not given considerable thought to the subject of magneto



ignition. So far there has never been but one known serious attempt in this direction in this country, and unfortunately that one met with reverses at the outset which prevented the machines being placed on the market.

Whether or not the magneto would prove all that it theoretically offers is not agreed upon by those best qualified to speak. While its advocates claim for it that battery and allied troubles would be in a fair way toward elimination in its use, there are those who point out that the added working parts and the difficulty of speed regulation are no small factors presenting matters for adverse troubles.

While there is not a small motor built in this country with magneto attachment, in England there is one known as the Simms, which has this attachment, and that has had much said in its favor. As shown in the accompanying illustration, the magneto is carried on a bracket extending from the crank case. The device is driven by a connecting rod connected to the right hand crank shaft, and does away with battery and coil.

Don't Over-Meddle With Employees.

The secret of the success of the great business enterprises of the world lies in the talent of some man at the head to get folks who can do things and then let them alone to do them. It requires much less talent and genius to find the man to "deliver the message" than to keep your hands off and let him do it.

One business that is in mind, says Ad Sense, has practically reached the limit of its expansion because the man at the head of it isn't big enough to let folks do things; he is always interfering with his method; his employees have no individuality in their work; they try to do it "to please the old man" rather than to promote the business, but he doesn't encourage the expression of them; he overrides new suggestions because they "cost too much" or because he doesn't "consider them practical," or because the man who makes the suggestions "doesn't know anything about it." A discouraging case for an employe who really wants to improve his own condition by improving the business he is in.

The Retail Record.

Paterson, N. J.—C. B. Vaughn, fire loss \$2,000.

Meriden, Conn.—H. E. Loll opened store in Colony street.

Findlay, O.—Bruce Houser opened shop in North Main street.

Sandy Hill, N. Y.—Arthur E. Smith opened store in Main street.

Quitman, Ga.—G. F. Buser opened repair shop in old Bank Building.

Easton, Md.—F. A. Shannahan opened repair shop in Dover street.

Utica, N. Y.—James Robinson sold Sherburne Bicycle Enamel Works to Walter Colwell.

A. C. C. Elects Officers.

At the annual meeting of the Associated Cycling Clubs the following were the officers chosen, a vote being cast by the secretary: Alderman Joseph Oatman, Knickerbocker Athletic Club, president; D. Hines, Greenwich Wheelmen, vice-president, and Dr. E. V. Brendon, St. George Wheelmen, secretary and treasurer. The following chairmen of committees, who have power to appoint their own assistants, were also elected: Rights and legislation, W. C. Townen; streets and roads, George C. Wheeler; racing, R. J. Nagle; press, D. L. Driscoll; social intercourse, A. J. Henrich, and finance, Joseph H. Goodwin.

Abestos as Ring Packing.

Attention has previously been called to the use of asbestos as ring packing, and the advice was given to soak the asbestos in water before using. This advice was given where better facilities were not at hand. If time can be had the following is recommended:

Immerse the asbestos in olive oil for not less than two days, and then remove and hang up to allow the surplus oil to drip off. Then lay the asbestos flat and allow the oil to dry somewhat, after which rub black lead well into both surfaces. This will give a pliable packing that can be used many times.

Tribute to the Drummer.

The word "drummer" is not the nicest word in the language, but it seems to fit the man who is after business, says the Philadelphia Times, and with Americans who like to save time it is preferable to the commercial traveller. It is better than promoter, because, whether justly or unjustly, we need not discuss, a promoter is generally considered as one who is after more than a legitimate profit transaction. The drummer gives values for favors received. And he does a great deal more than that. He is the best agent of our modern civilization. He is the missionary of enterprise and the promulgator of knowledge. He stimulates laggard communication, supports the world's hotels, saves the railroads from annual bankruptcy, distributes the newest facts and keeps old stories moving. There is in his speech some of the best action of the times. He seldom hedges. He wastes little time. He goes to the point. He has purpose. The world's professional orators might sit at his feet with profit. And if he could make his methods prevail in England the pictures of the House of Lords and the House of Commons would not show two-thirds of the members napping while some honorable gentleman has the floor.

Don't let reports of the success of your competitor discourage you. Take a fresh grip and go him one better, urges White's Sayings.

Don't be a Knocker.

The following is going the rounds in the Western newspapers. It is good advice anywhere. Take it to heart:

"If there is any chance to boom business, boom it. Don't be a knocker. Don't pull a long face and get sour in your stomach. Get a smile on you. Hold up your head. Get a hold with both hands. Then pull. Bury your hatchet. Drop your tomahawk. Hide your little hammer. When a stranger drops in, jolly him. Tell him this is the greatest town on earth. It is. Don't get mulish. Don't roast. Just jolly. No man ever helped himself by knocking other people down. No man ever got rich trying to make people believe that he was the only good man on earth. You can't climb the ladder of fame by stepping on other people's corns. They are their corns. Not yours. And they're tender. Keep off the corns.

Value of a Good Name.

How a good name established in one industry follows a man into his newer ventures is aptly illustrated in the case of the Rambler gasoline carriage. Although but little more than declared on the market, its manufacturer, Thomas B. Jeffery, now of Kenosha, Wis., but formerly of the Gormully & Jeffery Mfg. Co., of Chicago, reports that the season's output is already pretty well contracted for, many of his best customers being those who formerly handled his Rambler bicycle.

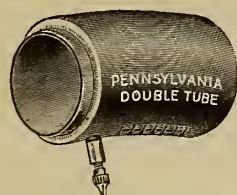
To Find Centrifugal Force.

The following method of finding the value of centrifugal force by the slide rule has been given for the use of those designing fly-wheels for high speed small motors:

For this problem a convenient starting point is the radius at which the centrifugal force is equal to the weight of the revolving mass, at, say, 100 revolutions a minute, which radius is equal to 3.52 inches very nearly. At 352 on the right hand half of the upper or A scale of the slide rule place a mark—that being easier than remembering the number. Reverse the slide and bring 1 of the C scale opposite the mark. The numbers on the C scale, which is now the upper scale of the slide, represent revolutions a minute, and they stand opposite the radii at which, for those speeds, the centrifugal force is equal to the weight of the revolving mass. For instance, opposite 200 revolutions a minute read .88 inch, and opposite 300 revolutions a minute read 0.392 inch. The ratio between this radius and any other radius, multiplied by the weight of the mass, gives the centrifugal force at that radius. The radius determined may be located by the runner when, by replacing the slide in its normal position, the final answer may be quickly found.

"The Motor: What It Is and How It Works." See "Motocycles and How to Manage Them." \$1. The Goodman Co., Box 649, New York. ***

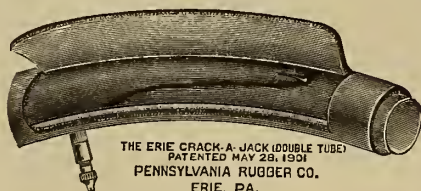
Jobbers, Be Wise!



Handle these
Goods and
MAKE MONEY.

STAY WITH THE GOLD MEDAL WINNERS.

Write for
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1902
Price
List.

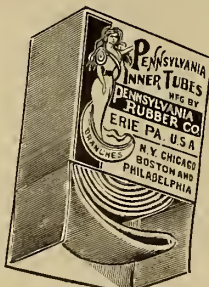


Don't close
until you
consider
our entire
line.

**PENNSYLVANIA
Rubber Company,**
ERIE, PA.

BRANCHES:

NEW YORK CHICAGO BOSTON
BUFFALO PHILADELPHIA



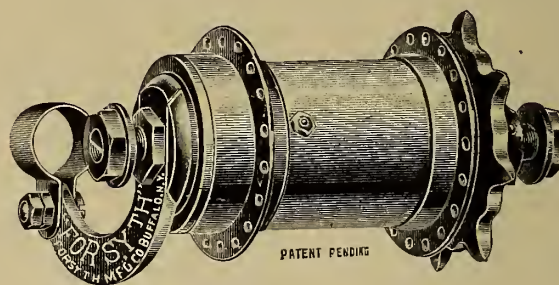
STATEMENTS BACKED BY FACTS.

When we say that the

'FORSYTH COASTER-BRAKE

is the peer of ANY brake on the market, we mean it.

The assertion is backed up by the brake itself.



Look at its ORIGINAL features.

ADJUSTABILITY (the only brake that has any adjustment of any kind).

Simplicity of construction—note its few parts.

Ease of operation.

Positive in action.

IT WORKS ALL THE TIME.

If you haven't already examined it, wouldn't it be a good idea to at least get acquainted with it without delay?

FORSYTH MFG. COMPANY, Buffalo, N. Y.

PHOENIX'S FEATURES

Foreign Motor Bicycle Which Incorporates not a few Advanced Ideas.

Advices from England giving details of the Phoenix motor bicycle, a general description of which appeared in *The Bicycling World*, make it appear that that bicycle has some of the most advanced thought in motorcycle construction.

In general the machine presents the appearance of the Minerva type, so popular abroad—that is, the motor is hung under the lower tube of the main frame, with the tanks occupying the diamond. It is in the details, however, that the machine departs from the ordinary Minerva type and that are worthy particular attention.

There is no handle or other means of opening a compression cock, this latter being dispensed with, its place being taken by an exhaust valve lifter, operated by a wire running to the left grip. This valve lifter is fulcrumed on a short arm bolted to the upper edge of the crank case, and its back end is continued beyond the fulcrum and comes in contact with a projection from a clip attached to the lower frame tube. To this clip is connected one of the primary wires.

The first movement of the wire slightly raises the forward end of the lifting lever, but this movement is so little that it does not raise the exhaust valve. The lift, however, is sufficient to break the electric connection of the back end of the fulcrum and the clip on the frame. The lever operating the wire is placed inside the handle bar and provided with a catch to hold the exhaust open. When the catch is released the lever springs back to its inoperative position, closing the valve and at the same time making its electric connection. When it is desired to only break the electric circuit the lever is merely raised a short distance.

Another feature is the extra gasoline tank placed between the seat post tube and the rear wheel. The main tank has a small tube passing from it, and through the top of the spare tank to a point near its lower end. In the screw cap, through which the tank is filled at its top, is an ordinary tire valve, to which a hand pump is attached to drive the gasoline into the main tank.

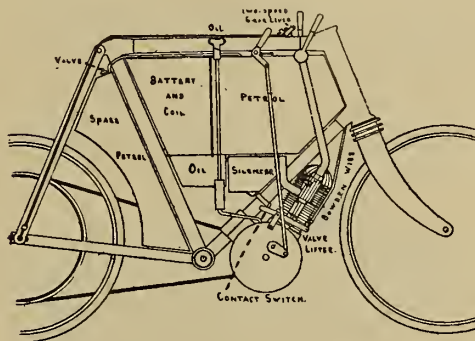
With this supply the bicycle can be ridden for long distances without need of refilling. It is claimed that the maker has covered over 200 miles on the road without a stop, and during the cycle and motor show now being held at the Crystal Palace, London, the bicycle is to be run on the track for a non-stop trial.

Another fitting that the makers of this machine have been experimenting with is a two speed rear hub. The method adopted in this device is to fit on the right hand side of the rear hub a free wheel clutch (without breaking mechanism) for the pedal drive. On the opposite side of the hub the large

belt pulley is carried on a drum fitted to a sleeve, which rotates inside the hub. On the inner periphery of this sleeve are cut teeth, which mesh with four spur wheels that are moved in or out of mesh by means of a cord projecting through the end of a hollow axle and running to an operating lever placed on the top frame tube or handle bar, as desired.

The difference between the high and low gear is 25 per cent, and it is claimed that with this difference the bicycle will go up any hill. If desired, both gears can be thrown out of mesh, allowing the engine to run perfectly free.

According to one who has used the machine, it is best to start the machine with the high gear in action, as the power is not then transmitted through the small gear wheels within the hub, which wheels might be damaged by the sudden application of the



motive force, although they appear to stand well when merely transmitting the steady power required when climbing hills. He found that the change of gearing is effected most smoothly and without the slightest trouble, though if the motor has been disconnected the machine has to be slowed to nearly a walking pace in order to get the high gearing engaged.

New York Industrial Magnitude.

The magnitude of the manufacturing industries of Greater New York is disclosed in some statistics just made public by the Census Office. There were in the consolidated city in 1900 39,777 establishments, with an aggregate capital of \$922,125,581, and producing goods valued at \$1,371,398,468. These establishments employed wage earners to the number of 462,799, who received in wages \$245,031,181. The miscellaneous expenses amounted to \$163,173,243, and the cost of the materials used was \$709,120,137. The establishments in the city numbered a little less than half those in the State, but the value of their product was about 63 per cent of that for the State as a whole. The capital employed shows an increase of 48 per cent for the decade, while the value of the products shows an increase of only 26.4 per cent.

"Defects (in motorcycles) and How to Remedy Them." See "Motorcycles and How to Manage Them." \$1. The Goodman Co., Box 649, New York. ***

GASOLENE CONSUMPTION

Under Adverse Conditions Paris Tests Prove Bicycle to be the Most Economical.

In the annual consumption tests held in France week before last there were two classes for motorcycles. One class for quads and tricycles and the other for bicycles.

The distance covered was 100 kilometres, fifty kilometres out from Paris and back. There was no question of speed, the entrants had merely to cover the course in a given time. The roads were in a bad condition, for snow had fallen a few days previously, and a thaw had made the roads very heavy and muddy, and this may be taken as increasing the importance of the results, since it is probable that under better conditions the consumption would be lower.

As all the vehicles differed in weight, the only way of getting an accurate and ready means of comparison was to work out the consumption to the kilometre ton. Some of the motor bicycles came out very well indeed, and two of the Clement autocyclettes consumed less than a litre for the 100 kilometres, representing .078 and .095 litre a kilometre ton. The former figure used to be regarded as the best that could be obtained in a motor vehicle of any kind.

It should be stated that the pedals were taken off the motorcycles, and the whole distance had to be covered with the sole aid of the motor. The other bicycles ranged from .102 to .163 litre, but the last machine, La Française, consumed more than four times the amount of the winner. Among the tricycles two De Dion machines finished, one using up 2 litres 325 of 50 per cent alcohol and the other 4 litres 465 of gasoline, representing .132 and .297 litre a kilometre ton, respectively. The machine employing alcohol did much faster time than the gasoline tricycle.

The Success of the Cinch.

The manner in which the Cinch coaster brake has gained ground since Frank Riggs threw all his undoubted energy into it is entitled to remark. A year ago it was scarcely known. To-day there is small excuse for the man who does not know it. The demand has kept pace with its increase of fame, and has exceeded even Riggs's most sanguine anticipations. The original output has been doubled and its tripling is in sight.

Gump Returns to Dayton.

A. W. Gump, who established the Shelby Cycle Mfg. Co. in 1895, and who previously was one of the first cycle jobbers in the country, has purchased the business of the Cataract Tool and Optical Co., of Buffalo. This business Mr. Gump will remove to his old home place, Dayton, O., where he will manufacture lathes, tools and light machinery.

“Knowledge is Power”

and than now

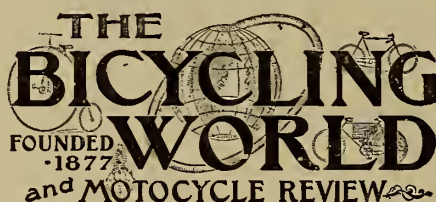
it was never more powerful in the Cycle Trade.

The Dealer Who Knows What's What and Who's Who

and who keeps himself constantly informed

Is the One Who Will Survive.

.... IT IS THE MISSION OF



TO SUPPLY JUST SUCH INFORMATION.

If you are content merely to drift with the tide—if you are content to live within your narrow shell—the statement will suggest nothing. If you are watchful and wide-awake; if you are a really progressive merchant who desires to survive and to keep abreast of the times, this subscription blank will be hint enough for you.

THE GOODMAN COMPANY,
124 Tribune Building, New York.

Enclosed find \$2.00 for which enter my subscription
to the BICYCLING WORLD for one year, commencing
with the issue of.....

Name.....

Address.....

Concerning Good Salesmanship.

Since salesmanship is really a science and a profession and is fast becoming recognized as such, salesmen, as a class, should go at their work more scientifically. Take, for example, the case of a man who is selling some high class specialty. In most cases when he calls on a customer he begins his story wherever he happens to and goes through it in a sort of haphazard way. Not once in a hundred times does he cover all the strong points of his goods, and he is extremely likely to omit exactly the point which would have been strongest with the man he is talking to.

There is only one logical and convincing way to tell any story or make any argument, and many of the best salesmen I know have gone so far as to write out exactly what they want to say to a customer and commit it to memory, says a contributor to the Chicago Tribune. To some people this may seem like a parrotlike performance, but it doesn't work that way in practice. At any rate, every salesman would find it a good plan to write out his argument in the strongest way he can, and then, if he does not memorize it, at least get firmly fixed in his mind the main points in the argument in their proper order.

Another thing. A first class salesman does not let a customer interrupt him and throw him off the track. When a customer says, "Yes, but I think I can get a larger discount somewhere else," the up to date salesman answers, "Possibly. We'll talk about that in a minute. Just now I want to show you exactly how this gas engine or typewriter or automobile works," and goes ahead with his argument. If he stops to answer every objection at the time it is made he loses all the cumulative effect of his argument, and quite possibly arouses a spirit of antagonism in the mind of his customer which no amount of argument will remove. If he puts off

the customer with the proper kind of an answer it is more than probable that by the time he has completed his argument the customer will have forgotten his objections and the salesman will not be obliged to answer them at all. At any rate, the customer will have all the strong points of the goods in his mind when the argument is completed, and minor objection will not then look so large to him.

So thoroughly do expert salesmen realize that they are engaged in one of the learned professions that I have known some of the most successful men in New York and elsewhere to take special courses in psychology, in logic and even in elocution in order to prepare themselves for still greater successes. Several great firms which employ only experts have regular training schools for the men they employ to sell their goods, in which these men spend sometimes months before they are allowed to go out into the field at all. These schools have regular text books prepared for their students, and expert professors of salesmanship are employed to lecture to them and to put them through practical demonstrations of their ability or lack of it.

Dingman Reports Success.

M. J. Dingman, who has been travelling in Europe in the interests of the Goodyear Tire and Rubber Co., of Akron, Ohio, has returned and reports a largely increased business in the entire line of goods made by the Goodyear Rubber Co.

The City Smithy Up-to-Date.

On Ferry street, just off Main street, Buffalo, up to a very recent date there was a large and conspicuous sign, painted on the side of a building, which read, "Horse Shoeing and Bicycle Repairing."

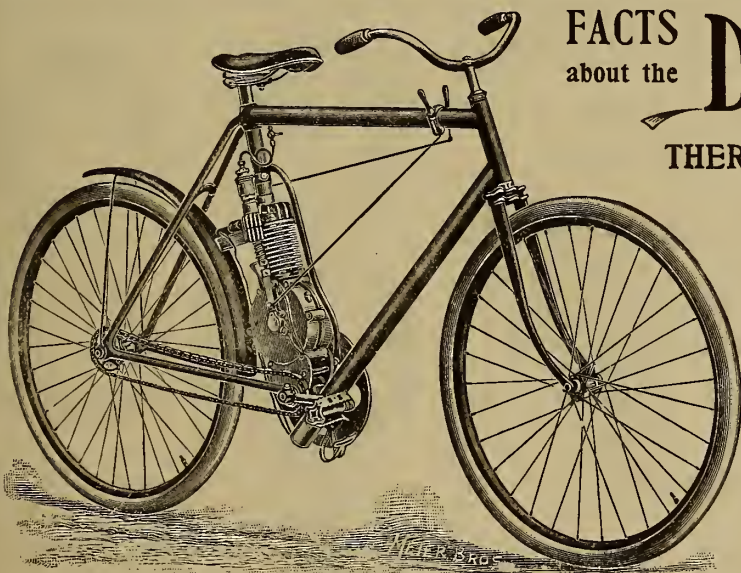
"The only man who makes no mistakes is the man who never does anything."—President Roosevelt.

"Rubber Substitute" a Misnomer.

The term "rubber substitute," applied to the great variety of materials that are used as admixtures or fillers in the manufacture of India rubber goods, is evidently a misleading one. A substitute is understood to "take the place of" and "answering the same purpose." There is no such substitute existing, and it appears safe to say that it will never be possible to produce by artificial means a substance that will take the place of India rubber, possessing the wonderful qualities of the natural gum, its astounding elasticity and resiliency, waterproof, acid-proof, insulating and other qualities, says the "India Rubber World." The term "Concurrent Rubber," adapted lately by Mr. Junius Nagel, of New York, for his very interesting new product, is much nearer to reality. "Concurrent" means "contributing to the same effect, acting in conjunction, agreeing, uniting with."

Mr. Nagel is the inventor of the well known "Interior Conduits" (system of insulating tubes that are similar to hard rubber), a variety of asbestos and other new products, insulating materials, etc. According to the inventor, no other artificially prepared substance so nearly resembles India rubber. Its expansion reaches about four to five times its original volume, while its resiliency—though not acting instantaneously—is remarkable. It will mix and vulcanize with India rubber, but may also be used independently for insulating electric wires, the manufacture of tire tape and the like. It contains no sulphur, rubber shoddy or any foreign admixture; can be manufactured in any degree of hardness or softness and its price is comparatively low.

"Concurrent rubber" is not one of the so-called "oil substitutes," which in most cases are composed of vegetable oils. It may be stated, nevertheless, that there is used in it about 20 per cent. of linseed oil, the balance being gums, etc. The linolein, however, owing to a peculiar process, is decomposed and is converted into linoleic anhydride and lin-oxyne.



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FACTS
about the

DeLong Motorcycle

THERE IS NO OTHER MOTOCYCLE LIKE IT.

Tanks, bags, belts and cases entirely absent.
Starts at one revolution of the cranks.
Its extreme lightness (about 60 pounds).
Its speed from 5 to 25 miles per hour.
It's a wonder at hill climbing.
Its narrow tread (5 1/4 inches).
Its strength and simplicity.
It's a pleasure to ride it.

CLEAN—GRACEFUL—RELIABLE.

WRITE FOR OUR 1902 AGENCY PROPOSITION.

Catalogues on application.

INDUSTRIAL MACHINE CO., Phoenix, N. Y.

The Week's Patents.

692,811. Bicycle. Anders G. Anderson, Worcester, Mass., assignor to Edmund Converse, Worcester, Mass. Filed Nov. 20, 1899. Serial No. 737,721. (No model.)

Claim.—1. As an article of manufacture the within described coupling for bicycle frames comprising a central portion to receive a seat post tube and having a prong and divergent prongs, and with their adjacent sides abutting and provided with notched edges and a notched tie piece engaging the notched edges of said abutting sides, substantially as described.

692,849. Attachment for Bicycles. John C. Grout, Brooklyn, N. Y. Filed Sept. 27, 1898. Serial No. 691,973. (No model.)

Claim.—1. An attachment for bicycles, or similar vehicles, consisting of a clamp for engaging the frame, an arm adjustably pivoted to said clamp, and a disk adjustably pivoted to said arm, the pivot of said disk being at right angles to the pivot of said arm.

692,942. Motor Cycle. Edwin S. Strickland, Boundbrook, N. J. Filed Oct. 1, 1901. Serial No. 77,234. (No model.)

Claim.—1. In a motor cycle, the combination of a frame having its lower central portion adapted to receive an inclosed driving gear, and an explosive motor also having an inclosed driving gear with means for joining together the corresponding inclosure or casing of said motor and cycle gear, as set forth.

692,943. Bicycle Gearing. Charles S. Thompson, Elizabeth, N. J. Filed June 28, 1901. Serial No. 66,359. (No model.)

Claim.—1. In bicycle gearing, the combination with a primary driving member, a sprocket wheel mounted thereon, an intermediate member and gearing connecting the said members whereby they are driven together, but at different relative rates of speed, of a wheel with which either the said primary or said intermediate member is adapted to engage, and means operated by the driving mechanism for permitting the engagement of either the primary member or the intermediate member with the wheel.

692,975. Ignition Plug for Explosive Motors. Jena B. Boisselot, New York, N. Y., assignor to Eduard Van Dam, New York, N. Y. Original application filed Oct. 11,

1900, Serial No. 32,693. Divided, and this application filed Jan. 2, 1901. Serial No. 41,791. (No model.)

Claim.—1. In a motor, an igniting plug provided with an insulated terminal holder and a yieldingly mounted binding post in contact with the terminal of said holder, as described.

693,001. Primary Battery. John W. Frees, Reading, Penn. Filed May 15, 1901. Serial No. 60,272. (No model.)

Claim.—A primary battery, comprising a lead casing or jar having an open top, and a porous receptacle B having an open top, located in said casing, with a quantity of pulverized lead chlorid between said casing and receptacle, a corrugated zinc Z, located in said receptacle, and surrounded by a solution composed of hydrochloric acid and a chlorid of an element whose oxid unites with water to form a hydrate, a quantity of paraffin oil covering said substance and a quantity of mercury resting on the bottom of said receptacle B in contact with the zinc, all substantially as and for the purpose specified.

693,069. Acetylene Gas Generating Lamp. Edwin M. Rosenbluth, Philadelphia, Penn. Filed Feb. 4, 1899. Serial No. 704,482. (No model.)

Claim.—1. In an acetylene gas generator, a carbid chamber, a water chamber, a wick extending from said water chamber within said carbid chamber, a rotary valve surrounding said wick and arranged to control the supply of water thereto, an opening through said valve, arranged so that said wick may be withdrawn therefrom, an operating handle for said valve, and a removable plug arranged to adjust said valve in its casing, to secure said handle upon said valve, and to normally close the wick opening in said valve, substantially as set forth.

693,159. Means for Expanding the Tubes of Bicycle Parts and Securing Same. Victor E. Rumbarger, Dayton, Ohio. Filed Oct. 30, 1899. Serial No. 735,312. (No model.)

Claim.—1. In a tube expander, the combination of a tube having a series of slots therein, a lever within said tube carrying curved faces on opposite sides of its end adjacent said slotted portion of said tube, said curved faces conforming substantially to the bore of said tube and engaging said tube at different points in the length of said lever,

the upper end of said lever being less in thickness than the diameter of the bore of said tube, and means for bodily moving said lever about its fulcrum point and laterally with reference to the axis of said tube, substantially as specified.

693,202. Cycle. Rudolf Wittmann, Brooklyn, N. Y. Filed March 29, 1900. Serial No. 10,690. (No model.)

Claim.—1. A cycle frame having a tubular seat post frame and a front branch, each having its lower end flattened into semi-circular shape, the flat sides of said semi-circular ends of the seat post and front branch being arranged in juxtaposition, and secured together, substantially as described.

693,214. Bicycle Driving Mechanism. James Baker, Melbourne, Victoria, Australia. Filed July 9, 1901. Serial No. 67,649. (No model.)

Claim.—1. In a cycle of the class indicated, the combination with the frame thereof, and driving mechanism therefor; of a guide frame having two pairs of roller bearings at right angles to one another, a clip for holding said guide frame in position, ears for securing said frame to said clip, a rod passing through said guide frame, a saddle upon said rod, and means connecting said rod to the driving mechanism, substantially as described.

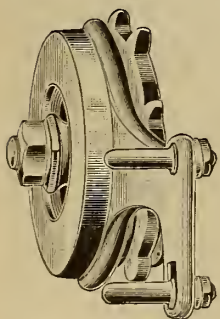
693,274. Voltaic Cell. Woolsey M. Johnson, Cambridge, Mass., assignor of one-fourth to Charles Frederick Johnson, Hartford, Conn. Filed March 30, 1901. Serial No. 53,600. (No model.)

Claim.—1. In a dry cell having an alkaline electrolyte, a zinc electrode, a salt which forms with zinc a soluble double salt in alkaline solution, and an electrode of oxidized copper gauze.

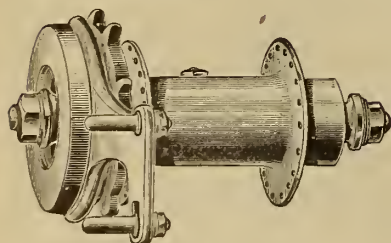
693,299. Bicycle. Alexander P. Morrow, Elmira, N. Y. Filed Dec. 26, 1899. Serial No. 741,633. (No model.)

Claim.—1. A bicycle hub having a fixed hollow overhanging annular brake flange intermediate its ends, and an annularly arranged bevelled friction surface on the hub adjacent to the overhanging flange and concentric with said brake flange.

"How to Drive a Motorcycle." See "Motorcycles and How to Manage Them." \$1. The Goodman Co., Box 649, New York. ***



DETACHABLE.



UNIVERSAL.

PATENTED
June 12, Aug. 14, Dec. 25, 1900.
Feb. 19, Mar. 26, April 1, 1901.

Wyoma Universal

COASTER, BRAKE AND HUB COMBINED.
WILL FIT ANY BICYCLE. READY TO INSERT IN WHEEL BY LACING IN SPOKES.

Wyoma Detachable

MADE TO FIT THE LEADING STANDARD HUBS.
BOTH MODELS WILL ALLOW REAR WHEEL TO

RUN BACKWARDS.

FIVE PIECES, SHOWING CONSTRUCTION OF 1902 MODELS.

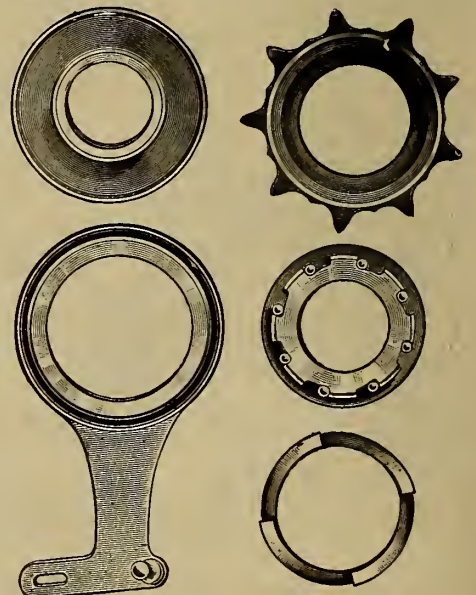
NO FIBRES.

NO BALLS.

FULLY GUARANTEED.

MANUFACTURED BY

Reading Automobile and Gear Company,
TENTH AND EXETER STS., READING, PA.



An Extraordinary Article



at an
Ordinary
Price.

That about describes

The Oak Saddle

You cannot buy a better one no matter what price you pay or to whom you pay it.

The Oak represents the very pinnacle of saddle perfection and is sold under a guarantee that simply must convince everyone that we know how to back up our goods. Try us.

Newark Cycle Specialty Co.
NEWARK, N. J.

About Motor Lubrication.

The question of motor lubrication, as before pointed out in The Bicycling World, is an important one in appealing to the buyers of motor bicycles, and should receive every possible attention on the part of makers.

A device that has been suggested is an adaptation of the intake valve as operated by the vacuum in the cylinder. The oiling valve is made in the same manner. It is attached to the crank case, and the vacuum in the crank case on the up strokes of the piston opens this valve, while the crank case compression, brought about by the descending strokes, serves to close the valve.

The spring can be adjusted by a nut to give any desired oil feed at each time of opening of the valve. Of course, it should be understood that the analogy here drawn between the gas intake and this valve should be understood to apply to the makeup only. In running it would operate twice as often.

"Motorcycles and How to Manage Them"; 126 pages, 41 illustrations; cloth bound, \$1. The Goodman Co., Box 649, New York ***

OILERS.

"PERFECT"



25c.

"GEM"



"LEADER"



10c.

"STAR"

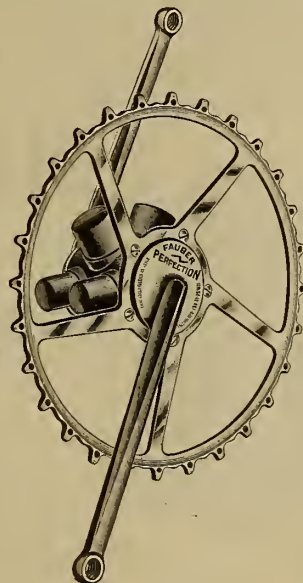


We make oilers for almost the entire trade. The quality of our oilers is unequalled.

CUSHMAN & DENISON, Mfrs. 240-2 W. 23d St. N. Y.

TRADE MARK

Fauber Perfection Hanger



THE
DIAMOND
SQUARE
CRANK

Unequaled in
any of the
points which
make a Perfect
Hanger

LIGHT
SIMPLE
DURABLE

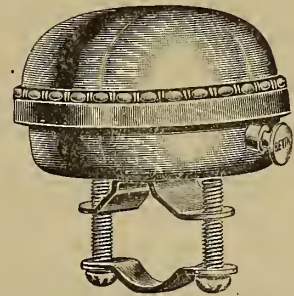
FAUBER
MFG. CO.
ELGIN, ILL.

The fact

that it is a

Bevin Bell

is of itself sufficient to decide
many orders.

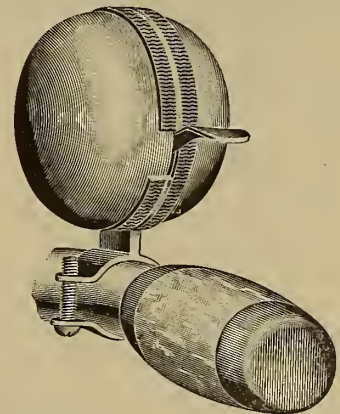


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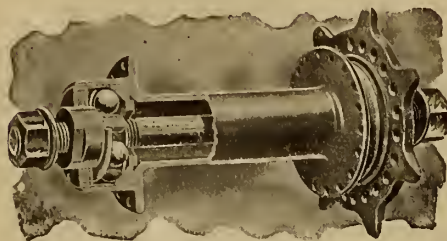
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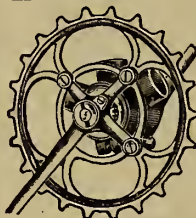
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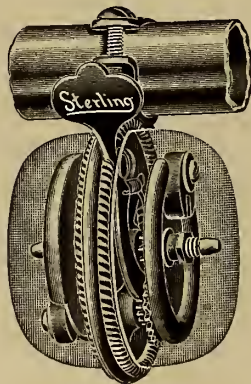
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The Bicycling World

AND MOTOCYCLE REVIEW.

In which is incorporated "The Wheel and Cycling Trade Review" and the "American Cyclist."

Volume XLIV.

New York, U. S. A., Thursday, February 27, 1902.

No. 22

FROM \$200 TO \$150

New Range of Motor Bicycle Prices set by the Auto-Bi People.

When three weeks since the Buffalo Automobile & Auto-Bi Co. made public their chain driven motor bicycle with the motor positioned at the crank hanger, nothing was said about other models, and the "transformation of the Auto-Bi" created a running fire of comment and a chorus of "Ahs!" It was supposed that the Auto-Bi people had abandoned the belt.

It now transpires, however, that they kept two cards up their sleeves; these they have just played. They constitute two belt-driven machines, one at \$175, the other at \$150—the latter a much talked of figure, but one not generally anticipated, this season at least.

The \$150 model is substantially last year's, with a few refinements. It is fitted with a $1\frac{1}{2}$ horse power motor, while the other two models have engines of $2\frac{1}{2}$ horse power.

Dogs are Baggage; Bicycles are not.

After consultation with the representatives of the Eastern railroads, the Central Traffic Association has adopted a code of rules affecting all baggage transportation west of Buffalo and Pittsburg and east of Chicago and St. Louis. These new rules are to take effect March 1. Under the new rules, bicycles, automobiles, baby carriages and other articles of the same kind must pay express rates. These articles will not be checked. Uncrated dogs, however, are carried free. The rule cannot, nevertheless, apply in New York State, as the law requires that bicycles be carried without charge.

Whitten and Pollard Part.

At Lynn, Mass., has taken place a distinct change in one of the landmark concerns. The old time firm of Whitten & Pollard has been dissolved, the two partners dividing the business so that the bicycle end is being continued by Mr. Whitten, while Mr. Pollard takes over the sporting goods division of the former joint business.

A. B. C.'s Motor Bicycles, \$175.

The motor bicycle expected of the American Cycle Manufacturing Co. made its first appearance in Boston on "opening day"—Saturday of last week. It will probably be announced to the public next week.

It turns out to be a good looking, chain driver, with the motor positioned in a loop behind the seat post. What is even more interesting and what has been awaited with no little curiosity, its price is—\$175.

Snow Marred "Opening Day."

Practically the only section in this country that this year continued the one time fairly general practice of setting aside Washington's Birthday as an opening day in their respective bicycle rows, was in and around Boston. Unfortunately the worst of weather conditions prevailed, and of course the attendance at the various stores was affected thereby, so that a true comparison is difficult to make. It is perhaps a fact, however, that curiosity seekers were deterred thereby, and that those who did make the rounds were of the really interested class.

According to all reports, the various motor bicycles came in for a decidedly interested inspection, criticism and favor. The machines in evidence were the Marsh, Royal, Indian, Orient, Auto-Bi, Holley and the machine made by the American Cycle Manufacturing Co., which made its first appearance.

To Hold a Coasting Contest.

No definite decision regarding the Quadri-Centennial Celebration of the American bicycle, which the Metropole Cycling Club of this city has under consideration, has been reached. It is being held in abeyance pending the result of a canvass of the local and neighboring clubs, whose support of the contemplated parade is necessary. The Metropole Club has voted, however, to promote a coasting contest, and as the coaster brake has appeared since the last of those functions occurred, it is believed that some new wrinkles can be evolved.

Randall Opens in Boston.

Fred E. Randall, who for years has been a prominent dealer in Chelsea, Mass., has opened a new store at No. 245 Columbus avenue, Boston.

WARWICK DIVIDEND DUE

Final Report Submitted—Some \$20,000 to be Divided Among Creditors.

After wandering up and down the land for an interminable time and slowly dragging its robes through the courts, the ghost of the Warwick Cycle Mfg. Co., of Springfield, Mass., has finally been laid. Its bones have been given a final shake for anything they might contain, and ordered to their last rest.

Alfred S. Clarke, of Providence, R. I., and J. H. Hendrick, of Springfield, the assignees, have submitted their final account to the Insolvency Court. The account has been allowed, and a distribution of the undivided assets ordered. The final account shows receipts of \$82,221 and payments of \$62,158, leaving a balance to be paid out in dividends of \$20,062. The receipts include \$67,503, received for the Warwick plant, and \$9,220, received in settlement of the suit instituted against the Second National Bank that was recently adjusted.

It is expected that the \$20,062 to be distributed will mean a dividend of between 5 and 8 per cent. The assignees have already paid 27 per cent.

One Mail-Order Fraud Checked.

The Postmaster-General has issued a fraud order against the new Victor Manufacturing and Supply Co., of Chicago. The concern was one of the mail order variety that offered for sale goods of various kinds, such as bicycles, sewing machines, etc., and when remittances were received from patrons, failed to forward the articles paid for. The concern received about forty registered letters a day. The Assistant Attorney-General has recommended that the fraud order be discontinued upon the appointment of a receiver for the new Victor Co.

Offered to Russell.

According to reports from Toronto, the management of the Canada Cycle & Motor Co. has been offered Thomas A. Russell, now secretary of the Canadian Manufacturers' Association.

COL. BURDETT'S TRAGIC END

Dashed to Death in Hotel Horror—His Busy and Varied Career—Had Been L. A. W. President and Served Trade and Pastime in Many Ways.

Among those who met their deaths in the Park Avenue Hotel horror, in this city, in the early morning hours of Saturday last, was Colonel Charles L. Burdett, of Hartford, Conn., whose end was particularly sad and tragical.

He had evidently been aroused after the fire had made considerable progress, and, finding that escape from the room by the corridors and elevator or staircase was impossible, had dropped his mattress on the roof of the inclosed space around the courtyard, six stories below, and then made a rope of the sheets from his bed. This he fastened in his room and then went down the improvised rope hand over hand until he reached the end, when he dropped the rest of the distance. He calculated to alight on the mattress, and possibly did, but slipped, owing to the icy condition of the tin roof, and pitched off the roof, striking the courtyard pavement on his head. His death was probably instantaneous.

His heroic attempt at escape was entirely unnoticed, his body not being found until daybreak; it had lain for several hours in the driving sleet and snow.

While his military career had made him well known throughout Connecticut, and from 1891 to 1894 his services as an official of the League of American Wheelmen gave him a reputation that was national, few of the reports of Colonel Burdett's death remarked the leading parts he had played in the cycling world. But there are few wheelmen with retentive memories who can well forget either the man or his accomplishments. The short, slender, sharp eyed, quick actioned little man with the high forehead and well trimmed beard that seemed to forever hide a smile is not easy to forget.

He was one of the first bicyclists in Connecticut, having become a rider in 1880. He became identified with the cycling movement in the late eighties, when he was chosen attorney for the Connecticut Division, L. A. W. In that capacity his clearheadedness, his determination and his sound counsel brought him into such prominence that in 1891 he was elected first vice-president of the organization. The year following he became president, and in 1893 was elected to succeed himself. He was one of the last presidents to serve the league for love of the organization.

During Colonel Burdett's administration the L. A. W. was not free from strife. But whether as presiding officer or in council with himself he was equal to all occasions. He was quick to think, and as quick to act, and when he acted it was with decision; his

jaws shut with a snap. He was no man's plaything. He had a mind of his own, and in speaking it he often did so with such directness and bluntness as to make the other man sit up with suddenness. An instance of the sort occurred during his term of office. There was a mighty scramble for the chairmanship of the racing board, and the Colonel was beset on all sides, all manner of pressure being brought to bear on him. The clamor did not disturb him for a moment, for with supreme calmness he refused to heed it and picked out for the position a man with a local reputation only and who had never been even remotely suggested for the chairmanship—Howard E. Raymond, of Brooklyn, N. Y. Subsequent events proved the wisdom of his action and choice.

Colonel Burdett was frequently in New



York, and on the occasion of a recent visit a Bicycling World man suggested that he might attend the Torrington meeting of the L. A. W. and stir up things.

"I'm afraid I would find no one there whom I know or who would know me," he responded with a smile.

By profession Colonel Burdett was a civil engineer and patent attorney. In the latter capacity he became identified with the cycle trade. He was one of the Pope Mfg. Co.'s corps of advisers, and was particularly concerned in that company's purchase and operation of the bevel gear patents. He had also served the Bevin Bros. Mfg. Co., the Liberty Bell Co. and others known to the cycle trade. At the time of his death he was handling for the American Bicycle Co. a patent case involving their coaster brake, and it was to consult with Colonel George Pope, of that company, regarding that case that he came to New York on what proved his last visit. As fate would have it, he was crowded out of the hotel at which he usually stopped, and

his first lodging at the Park Avenue was his last.

As a soldier, he rose from a corporalship to the colonelcy of the First Regiment, Connecticut National Guard, being promoted from corporal to major at one bound. In the latter rank the signal service was his hobby, and it was due to his efforts that the Signal Corps was organized. In 1891 he added to its efficiency by mounting the corps on bicycles—the first of the sort in America—and brought it to such a degree of efficiency that Frederic Remington, after following the corps manœuvres, stamped it as "worthy of the plains." When he was made its colonel the regiment itself was in a state of disorganization, and it was to Burdett's energy, ability and perseverance that it was put on its feet and kept there in good shape. When the call came for volunteers for the war with Spain Colonel Burdett and his regiment responded promptly, but he was almost heart broken at being assigned to duty on the coast of Maine. He protested so vigorously that "his men had enlisted to fight," and should be at the front, that his command was transferred to Virginia, close to Washington. He thereafter haunted the War Department in his anxiety to be sent to the front, but his demands availed nothing. When the peace protocol was signed he was as insistent that his men had enlisted "for fight, not for garrison duty," as he himself told a Bicycling World man, and as a result his regiment was one of the first to be mustered out.

Colonel Burdett had dabbled in Connecticut politics, and was identified with all the popular movements occurring in Hartford. He was a member of several Masonic bodies, and belonged to St. John's Lodge, Walcott Council, Pythagoras Chapter, Washington Commandery and Sphinx Temple, Nobles of the Mystic Shrine. He was the drillmaster of Washington Commandery. He was also a member of the Order of Foreign Wars, the Country Club of Farmington, the National Guard Association, the National Military Service Association, the American Society of Civil Engineers and the Society of the War of 1812, and, of course, the League of American Wheelmen.

In addition to his zeal, energy and many other qualities which ordinarily bring success in life, Colonel Burdett was ambidextrous. He could write equally well with the left or the right hand, and could also draw or sketch with either. It was his custom or habit to write with whichever hand was most convenient for the position of the paper or work he was doing, and if one hand got a little tired he would use the other. Before its absorption by the Bicycling World the Colonel's good right hand and equally good left one had often contributed to The American Cyclist.

Colonel Burdett was born in Nantucket, Mass., on September 3, 1848; studied engineering at the Massachusetts Institute of Technology and law at Columbia College. He is survived by his father, mother and two children.

His remains were laid at rest with military honors on Wednesday.

WHERE CHAINLESSS LAG

Fertile Field Which is Indifferently Cultivated—High Gears and Low.

Melbourne, Jan. 23.—Owing to the vacation caused by the Christmas holidays considerable time was lost by Parliament in the consideration of the tariff, as already announced. Work has been resumed, but the items appertaining to cycles have not been touched. In common with all other trades whose goods have not yet been finally dealt with, there is a great deal of uncertainty, and which is doubtlessly the cause of a decided flatness in business circles generally. If anything, the wheel trade is a shade better than at this time last year, owing probably to an exceedingly mild summer, which has rendered cycling possible throughout the season. Instead of the thermometer averaging 95 to 100 degrees, it rarely exceeds 80. As I write now, 10 p. m., the instrument shows 66 degrees. And this is midsummer.

The chainless machine has yet to be introduced here in a practical, businesslike manner. I do not think there are more than half a dozen of that class in this State, and, although I ride more than most wheelmen here, I may say that no chainless machines are met with. Last year, business and pleasure combined, I covered just upon 14,000 miles, and always have at least two machines on hand. It may interest you to know that, although an old seasoned rider, dating as far back as 1880, I do not exceed 68 in gear for touring and general riding. Gears up to 92 inches have been tried, but I found that the distances a day were not increased, and that one required a longer period to recover from an extended ride on a high (say, 84 inch) gear than what he did when using a low one. With the latter exercise predominated over exertion, and it is exercise, not exertion or strain, that most men want.

When in the old ordinary days we did not think it anything extraordinary to cover 70, 80, 90 or even 100 miles in a day, but now, with the vastly improved machines and tires, the present day cyclist shrinks from fifty miles. The high gears have killed them off. Of course, if one is going in for racing that question is changed. Everything is then a matter of pace; comfort and pleasure do not, and cannot, enter into the racer's calculations.

Referring again to chainless machines, no questions are ever asked about them, because they are not exploited. Personally, I do not know what they are; I have seen and handled them, but have never put them to any test, and therefore should consider before I ventured to invest in one, no matter how much the appearance and running impressed me, and should certainly hesitate before taking one on an extended tour. This, to Americans, may seem queer, and to refer more to one as an individual. Not so, how-

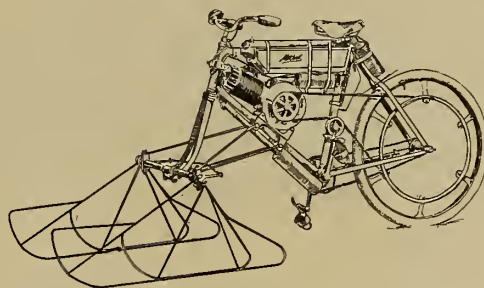
ever, I was one of the first riders to take to the safety, the pneumatic tire, the free wheel, and have lately been exploiting the two speed gear with coaster attachment combined, with very satisfactory results. I consider this latter combination one of the finest adjuncts to the present day cycle.

Kessler Absorbs a Competitor.

The Washington (D. C.) Cycle Supply Co., of which W. H. Coleman was proprietor, has been absorbed by C. S. Kessler & Bro., of that city. The deal leaves the Messrs. Kessler practically a clear field in the District jobbing trade.

Here's the Motorcycle Sled.

The motor driven cycle sled has made its appearance, and in Chicago. I. H. Whipple, of the Whipple Cycle Co., of that city, is its originator, and in a letter to *The Bicycling World* he vouches for the fact that it is eminently practical. He states that he has had



many spirited brushes with the horse drawn sleighs on the West Side boulevards of Chicago, the tremendous pace of the motorcycle sled making it easily possible for it to hold its own. As the illustration makes plain, the sled is a Mitchell motor bicycle with the front wheel removed and runners substituted.

Downey's Mile in 54 1-5.

Advices from Brockton, Mass., state that on Friday last Joseph Downey, on the Marsh six horsepower motor bicycle, rode a strait-away mile on the State road near Norwood in the phenomenal time of 54 1-5 seconds, doing the quarters in 14 1-5, 13 3-5, 13 2-5 and 13 seconds flat.

The performance, although checked by four watches, was unfortunately unofficial, and cannot therefore stand as a record, although it is easily the fastest mile ever ridden on a bicycle of any sort, and is but 2 1-5 seconds behind Fournier's performance in a forty horsepower carriage. Later in the year Downey will make an official trial, and believes he can certainly equal the Frenchman's flight.

Chooses Another Columbia Man.

President George H. Day of the Electric Vehicle Co. is surrounding himself with nearly all of the men who were his lieutenants when he himself was managing the interests of the Columbia bicycle. Henry Goodman is the most recent addition to his staff. Goodman has been named manager of the Electric Vehicle Co.'s Chicago branch.

BARWEST'S BIG DEAL

England and all Europe Given over—Plump Order Also Involved.

Frank F. Weston, the manager of the Barwest Coaster Brake Co., has added another plume to his cap, and takes no trouble to conceal his good feelings because of the fact.

The "plume" comprises a deal with the well known exporting house of Guiterman, Rosenfeld & Co., who have taken over the Barwest interests for Great Britain and the Continent, France excepted, the Barwest people already having capable representatives in that country. The deal carried with it an order for a good many thousands of coaster brakes, and as the Barwest is already pretty well known abroad, and is giving a good account of itself, a "repeat order" is reasonably sure.

With the coaster brake situation generally Weston has no fault to find.

"We are turning out 700 a day and are still behind orders," is the way he expresses his satisfaction.

Pill Flaker's "Gold Brick."

According to a Boston correspondent, the manufacturers of a widely advertised purgative pill have about completed negotiations for the purchase of a first class gold brick. The "brick" comprises "a local expert in bicycling who intends to enter the races this year on the grand circuit, and who does not want to run under his own name for family reasons." He proposes to race with an advertisement of the pill in question emblazoned on his sweater, and the pill compounders have about agreed to pay him a lump sum for the publicity thus promised. The young man and the pill makers are evidently unaware of what happens to young men who race under false names.

High Pressure's new Package.

To meet the demand of dealers who do not desire to carry a large stock or assortment, the National Cement & Rubber Mfg. Co., of Toledo, O., are putting up an assorted lot of their High Pressure manufactures in a package which is in itself a display case. They style it the "High Pressure Happy Family." The package comprises two bottles of oil, three bottles of Oilene and three tubes each of chainine, graphite, rubber cement, rim cement, plugging cement and jifoid cement. The price of the assortment is not its least feature of interest.

League Changes Organs.

The League of American Wheelmen has once more changed its official organ. The Tri-Weekly Tribune, of this city, now has the contract.

IT WAS A NATIONAL CHAINLESS THAT PAYNE RODE



MODEL 50 NATIONAL CHAINLESS.

From
New York
to
Buffalo
in
42 Hours
55 Minutes

beating the record
over an hour.

They are better than ever for 1902.

NATIONAL CYCLE MFG. COMPANY,
BAY CITY, MICHIGAN.

FISK TIRES.

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MR. DEALER—our tire proposition is an interesting one. If our traveler has not called upon you, send us a line.

You will be wise if,
“You buy the **FISK** and run no **RISK**”

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604 Atlantic Ave.

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SYRACUSE,
423 So. Clinton St.

BUFFALO,
28 W. Genesee St.

DETROIT,
252 Jefferson Ave.

CHICAGO,
54 State St.

SAN FRANCISCO,
114 Second St.

THE BICYCLING WORLD

FOUNDED 1877
and MOTORCYCLE REVIEW

In which is Incorporated
the "The Wheel" and the "American Cyclist."

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Change of advertisements is not guaranteed unless copy therefor is in hand on SATURDAY preceding the date of publication.

Members of the trade are invited and are at all times welcome to make our office their headquarters while in New York; our facilities and information will be at their command.

To Facilitate Matters Our Patrons Should

Address us at P. O. Box 649.

NEW YORK, FEBRUARY 27, 1902.

Col. Charles L. Burdett.

It was not given to every man to know Charles L. Burdett as we knew him, and more's the pity. But for all of that, the cycling world owes to his memory its reverence, respect and grateful acknowledgment. He served it as he served every one and everything—ably, unselfishly and well.

Colonel Burdett was a man worth knowing, a man whose friendship and counsel were worth something. He was no sycophant, no player to the galleries. He was a direct and purposeful man. He said what he meant, and meant what he said. He was unskilled in that gentle art of lying which we term "diplomacy." Perforce he was no hypocrite, which means that he was himself, and true to himself and to all others and all else. There were not many inches to his frame, but every inch of it was of the manliest type of man.

His heroic effort to avert death, his quick wit, his resourcefulness in the face of the direst danger was typical of the man.

When the earth closed over all that was

mortal of Charles L. Burdett on Wednesday, and the bugle blew the melodious if mournful "Taps," which sounds the soldier's call to eternal rest, it marked the end of a career that had been lived as the Persian poet beautifully expressed the span that we call life:

"The morn that ushered thee to life, O child,

Found thee in tears while all around thee smiled.

So live, that when thou take'st thy last long sleep,

Smiles may be thine while all around thee weep.

No man need feel a sense of weakness because of tears that well up when realization comes that such as was Burdett has gone from us forever. He was worthy of them.

Will the League Act?

The action of the Central Traffic Association in declaring that bicycles are no longer baggage and in exacting a charge for their transportation should not be suffered to pass unheeded. It calls for action, prompt action and plenty of it. It is evidence that the officials who claim that there is nothing more for the L. A. W. to do were "too previous." Will the League rise to the present occasion and prove its right to existence and support?

Don't Overlook Japan.

Among the opportunities of which the American cycle trade should not lose sight is the International Industrial Exposition which is billed to open in Osaka, Japan, on March 1, 1903, and to continue until July 31 following.

Despite the date, there is no time to lose, as applications for space must be filed before June 30 of this year.

We give editorial prominence to the subject because in our opinion there is no country that holds such cycling promise as Japan. Within the last few months we have had extended converse with not one, but several, gentlemen from Japan, and all that they say makes it appear that the empire is on the edge of just such a cycling boom as swept this country but a few short years ago.

The Japanese are just about reaching the club and the racing and track building stage of cycling interest, and its development, as was the case here and everywhere else, is almost certain to result in an enormously quickened demand for bicycles. The American article is already in good repute, and if

the trade but properly follows up its opportunities as they present themselves profitable results should accrue. The fact that the English language is being taught in the public schools and is generally understood greatly facilitates matters.

The Osaka exposition is an opportunity of the sort, and is easily available. The Japanese Government provides space free of charge, but, as stated, applications must be filed previous to June 30 next. The chief commissioner for the Fifth Domestic Industrial Exhibition, Department of Agriculture and Commerce, Tokio, is in charge of that detail of the affair.

Parts Makers' Lost Opportunity.

There is one branch of the bicycle trade in England that can well be studied by one part of the trade of this country, and that is the marketing of complete components. Across the water there are such old time and world known companies as the B. S. A., Perry, Components, Eadie and others, whose parts and complete fittings are as well known as the most famous of the makers of complete machines.

In fact, to the first two and to one or two other lesser lights may be fairly credited much of the force that gave the safety bicycle its impetus in its earlier days of seeking for fame and reputation. To those who have been identified with the trade for any time these two names and that of Smith o' Saltley will recall much of the opportunity that was offered the makers in this country of that to get out machines in a hurry before parts could be made. As a matter of history, many of the earlier makers depended entirely, at first, on the parts of these concerns, just as they did on the English tubing makers.

While the business of these concerns has entirely disappeared, so far as this country is concerned, their home market and other foreign markets have constantly increased, and to-day they are as well known in Australia as they are in Birmingham or Coventry. Their advertising has been well placed to make their goods reputable and widely known. One only of the results is that riders not infrequently specify machines built by their local maker of some particular "brand of components."

What has been done in one part of the world can be done in another, and it is to be regretted that some of the makers of this country who have had the opportunity have not used it to its full measure. We have a hanger, a hub and some other parts that

have been made standards, so far as they go, but they leave much to be hunted out and dug up by those who need the balance of the bicycle frame.

As is the case in England with entire fittings, so it is in this country with these few parts we have named. They are frequently specified by a rider having his machine built to order, but here his positive specifications must end, because his knowledge does not extend beyond them.

We have makers of complete frame sets, but, as a rule, they have failed to grasp the opportunities before them, and must depend entirely upon the goodwill of the local maker, who is but human and apt to be swayed by other considerations than mere quality. These same dealers handle complete bicycles of the class that have established reputations because they are advertised and the reputations lived up to.

They handle sundries and the very few parts named on the same basis. Here, however they cease to be positive customers, because they have no positive calls for anything beyond them, and use "something just as good," just as any other storekeeper does when the demand is not made for a well known "brand."

There is no fixed nor fundamental reason why the American complete parts maker cannot occupy the same position that his English cousin does. He must, however, use the same means that his cousin does, and not leave the position open to makers of biscuits, cigars and canned goods. It may be late in the season to plunge, but conditions with him are now such that he can plan a carefully laid out campaign when the fitting time is again before him. He may have genius in getting up a line, but genius alone does not count; philosophers describe genius as a capacity for hard work and everlastingly keeping at it.

Criticism of a Rider.

That profitable fashion of changing bicycles as the years change, which was once the rule, is the fashion no longer.

Nowadays the average rider's exchange of old wheels for new ones are so far between as to give rise to comment and speculation.

The fact that the new bicycles themselves embody few, if any, substantial departures from previous models has often been pointed out as a fruitful cause of the rider's disinclination to make new purchases, but specific information on the point is not really obtainable; the average cyclist is too prone to deal in generalities that do not enlighten.

There has reached us, however, a communication from a disinterested wheelman, Elliott C. Lee, of Brookline, Mass., who has taken pains to detail the exact reasons why he himself is riding a bicycle of the vintage of 1898. It is information of the sort that is of value to the trade, and as such it is passed to the cycle manufacturers for their consideration.

"The bicycles of to-day have all the faults of those of three years ago, and few improvements," writes Mr. Lee. "No matter what you want it for, the only machine you can get is practically a track racer, with low crank hanger and short head.

"The chain adjustment is that of five or seven years ago—the largest tires which will fit into the frame are one and one-half inches, if as much. The pedals have not been improved for years, and are nearly all one size, no matter what the rider's width of foot may be. Some years ago one firm brought out a chain adjustment by means of an eccentric in the crank hanger; an excellent arrangement by which you could adjust the chain instantly without displacing the rear wheel in the forks at all, but no one uses it now because it costs a little more than the usual screws at the forks.

"Formerly a heavy rider could have large, comfortable one and three-quarter inch tires—they are no longer made. I like to ride on country roads, and don't want my cranks so low that I must look out for ruts and stones—so I ride a machine four years old, not having been able to get a new one such as I want.

"I know from experience that a bicycle with a long wheel base is more comfortable to ride than a short machine, but I doubt if to-day there is a bicycle made that has a longer wheel base than forty-three inches, in fact, I have seen a maker's advertisement claiming superior running for his machines on account of their wheel base being shorter than formerly.

"I should like a change speed gear so as to have a choice of speeds under different conditions of road and grade, and in England I could have the choice between several kinds, but here there is none.

"In England I could have a machine with high or low, long or short frame, and cranks anywhere from six inches to nine inches long—but where should I go to get such machines or cranks here?

"In a word, the makers, by stopping all changes and improvements in bicycles have materially injured their business."

Mr. Lee is, of course, too sweepingly gen-

eral in his criticisms. Many of the features which he cites are obtainable in several bicycles. But the fact detracts little from the interest of his communication.

Now that the German cycle trade has agreed that the only cycle shows that shall be held are those at which cycles shall not be exhibited, an English cycling paper suggests that American and English manufacturers combine in holding a show in Germany in order that "the poor devils of German dealers may have an opportunity to see something new." Coming from a journal the editor of which has recorded his hatred of every one and everything American, the suggestion is distinctly rich. Some one connected with the paper must have been reading one of Sir Alfred Austin's "Stand together, brothers," poems.

It is rumored that a meeting of the League of American Wheelmen executive committee was held in this city last week. It is believed that the executive committee itself knows whether the rumor is false or true. The fact that no one else knows suggests that the new president, like his immediate predecessor, fears that if the papers should learn anything about the league they might place it in the sporting column and thus injure his good name.

A maker of bicycles who does considerable general advertising uses the following method to advance the interests of his dealers. If the request for a catalogue comes from a point where there is an agent a slip is inclosed, giving the name and address of that agent. At the same time the agent is forwarded the name and address of the inquirer.

Like every other part of a good machine, good finish may be said to begin in the inspection room, for, though it is claimed by some that a poor machine may have a beautiful finish, yet few ever saw a bad bicycle highly finished. Unless the utmost care has been devoted to the making the finish cannot overcome the poor groundwork.

The finish of a bicycle is by no means its most important feature, though it is certainly not the least, for it is a branch of making which demands the greatest attention. Money cannot be wasted on the finish of a good bicycle. It may be the most distinctive feature and at the same time the best selling point which a bicycle may possess.

OTTO AND HIS ENGINE

The Persevering German and how he Evolved the Gasoline Motor.

The remarkably increased interest in gas engines since the automobile came into prominence, and since the motor bicycle made it an object of concern to the cycle trade, has naturally carried with it a desire for information regarding those responsible for its being. Of these Otto is easily the most conspicuous, his name having been attached and still being associated in many minds with gas engines in general. Despite the fact comparatively little has been known of Otto; it has remained for a German eulogist to bring out some details of his career and of his perfection of the gas engine, or motor, as it is now more generally termed.

Nicholaus August Otto was born in 1832, in Holzhausen, in Nassau, Germany, and devoted himself till his twenty-ninth year to purely mercantile activity. From youth up he desired to improve his scientific knowledge, and did acquire a comprehensive understanding of physical questions, and especially of those relating to technology.

When the news appeared in the papers in 1861 that the Parisian machinist Lenoir had succeeded in producing mechanical power by the explosion of illuminating gas in the cylinder of an engine Otto's thoughts turned toward the same goal.

A new sphere of thought presented itself to his mind, and from then on his mind was completely engrossed with all its energy and endurance on the new problem. He was not misled by the accounts of the reported success of the Lenoir engine in driving the *jenney* in the lace factory in the Rue de l'Eveque. As usual with inventors, his friends looked on with pity, as he pursued his experiments in preference to following his previous promising occupation. He himself remained unshaken in his belief in the future of the gas engine and in his ultimate success.

He finally succeeded, in the year 1863, in seeing his first ideas realized at the workshop of a Cologne machinist. The result was hardly satisfactory, but was to be explained by the meagre knowledge of machine construction which he then possessed. Hard times followed. Trouble and anxiety came upon him. But in the hour of his sorest need he came into contact with a man who had not only studied technical science under Redtenbacher, but who also had that which can be learned in no school—the genius of a constructor—Eugen Langen, a member of a highly respected industrial family, who had just proved his right to a large inheritance.

The mutual work of these two men dates from September 30, 1864, and it would be difficult to say to-day to which was due the palm for their first success. The first fruit of their mutual labors was the well known atmospheric gas engine, which they introduced to the technical world at the Paris

Exposition in 1867. Almost unobserved, it stood aside from the numerous brilliant exhibits made by the makers of the Lenoir and of the Hugon gas engines. The French gas motor industry had not been idle. The Lenoir company had taken up the building of motors, and with special technical and financial facilities, and their painstaking construction, with almost noiseless running, scarcely left a resemblance to the prototype of the Rue de l'Eveque. Hugon showed that by the injection of a small amount of water the economy of the Lenoir machines could be considerably increased. The new German machines, on account of their detonations, aroused but little confidence. When the judges of awards went to award the highest prize, a gold medal, for progress in gas engine building, scarcely a voice was raised in favor of the Cologne engine. The energetic German member, Prof. Reuleaux, suggested



NICHOLAUS AUGUST OTTO.

that a test for power and gas consumption be made and taken as a guide in deciding the award. The test was intrusted to Tresca, the famous director of the Conservatoire des Arts et Metiers. The result was overwhelming. The gas consumption for the same power, in the Lenoir, the Hugon and the Otto and Langen engines showed the relation of 10:6:4. In view of this evident progress, the French members joined with the other judges in awarding the gold medal to the German engine.

Having publicly won this success the path of the inventors became less rugged. Numerous orders built up a profitable business, and in 1869 the workshops in Servae street, in Cologne, in which work had begun in 1864, became inadequate. A special factory was built on the opposite bank of the Rhine, in Deutz, and was fitted out according to Langen's plans with the newest and best machinery and appliances. With constantly growing success the undertaking was changed to a stock company in 1871. The sales of the atmospheric gas engine showed, in the first year, how great had become the demand for a reliable and cheap source of power for use by artisans and in small factories. Altogether, there were built over five thousand such machines, in size from one-quarter to three horsepower. Having established a profitable and successful un-

dertaking, Eugen Langen began to apply his activity to other industrial problems, while Otto directed his entire attention and strength to the management of the Deutz factory. Langen was still responsible in part for all constructive details.

During this time Otto himself was untiringly active in studying and investigating the fundamental questions of gas enginery by comprehensive research. A certain room of the factory still displays a long row of the constructions which were studied and tested, and no idea would be more incorrect than that which tended to ascribe Otto's last and most important success to accident or luck. One cannot look over this row of tried and discarded machines without recognizing anew that genius may indeed leap chasms in its flight, but that lasting success always follows only on bridges laboriously and firmly built.

As is known, Otto returned to the principle of direct working in his new machine. By the introduction of the four cycle he succeeded in using the working cylinder also as a compression pump, and made the construction very simple and pleasing. The construction of this machine, with its numerous ingenious ideas, aroused the admiration of the entire world, and to-day, after a quarter of a century, we see the same Otto cycle in accepted and almost universal use, notwithstanding the unexampled rise of the gas motor industry. Numerous inventors, who originally had held exactly opposite points of view, after painstaking and costly experiences, have come back to ideas which are essentially the same as those of Otto.

Nevertheless, the complete and lasting success of the Otto motor did not depend upon its more or less slightly external appearance. The direct working gas engine first became possible by the economy in the use of the working gases, which Otto obtained. By one stroke, the working expense of the gas engine was lessened by more than one-half, and an amount of progress made which the steam engine had attained only slowly and in decades. It can scarcely be doubted that Otto's invention depends essentially upon the working principle of the engine, upon its compression, ignition and combustion processes, and upon its increased speed and method of governing. The more external things have always had but an improving influence. This question has been decided with a great array of scientific knowledge in the famous lawsuits over patents and in different industrial countries.

Without attempting to discuss the opposing views, and the means of proof which were brought forth, Otto's views as to how he himself considered the process in his engine, and in what way his pioneering progress was accomplished, can best be explained, and most concisely, in the report of the twenty-fifth year jubilee of the Deutz works, as follows:

"Otto had not given up the idea of a direct acting gas engine, and the atmospheric en-

gine was a good object of experiment in his labors in this direction. Each single explosion, whether strong or weak, was plainly to be recognized as such, as the piston rose freely. The explosions were more or less strong, according to the richness of the gas mixture, so the piston rose up quickly or slowly. With mixtures weak in gas the piston often rose slowly, after a long time, during which the flywheel had already made a number of revolutions. Otto saw here that not only did these weak mixtures burn slowly, but they ignited late. At the same time he saw that a motor free from irregular impulses could only be obtained by using weak gas mixtures. The question to be answered then became, "How can dilute mixtures, e. g.: 1:11, 1:12, 1:13, be reliably ignited?" The question busied Otto for years, till finally the consideration of the smoke rising from a factory chimney brought the solution. The smoke, leaving the chimney heavy and thick, on rising became thinner and thinner by scattering in the air. Now, if we can obtain smooth running only by dilute gas mixtures of, say, 1:12, and since such dilute gas mixtures do not ignite reliably, the solution of the question is first to draw in five, four or three parts of air and then draw in a gas mixture of 1:7, 1:8, 1:9. We would have then a mixture of 1:12; at the igniting point there would be a mixture more or less rich in gas."

Little is to be written of Otto's personality. His life was divided between hard work and the quiet enjoyment of a happy family life. He was a man of honor in the fullest meaning of the word, was of rare simplicity and almost of too great modesty with regard to his appearance in public. In the year 1881 the principal meeting of the Society of German Engineers was held in Cologne; the rising of the gas motor industry was made a subject for discussion in recognition of the place. Otto could not be persuaded to take part in the public assembly and in the festivities. The people could publicly celebrate the success of him who was quietly working. In spite of this he was heartily rejoiced on being given the title of honorary doctor by the University of Wurtzburg. This title was rarely given to engineers. This was the only public distinction which he received in his entire life, but it was just so much the more marked. To his, not too large, circle of friends he was always patient and true, as in his work. To his last breath his relations to Eugene Langen were hearty and true. Even on the day of his death, January 26, 1891, Otto said to him, "He was indeed always my best friend."

Increase of Three-in-One.

In the month of February, with three days to run, the sales of the G. W. Cole Co.'s famous Three-in-One showed a 122 per cent. increase over the sales during the whole of February, 1901.

"Judge a worker by what he does, not by how he does it. The noisy river tug that snorts defiance at the ocean grayhound pulls the lightest load."

THE AGENT'S POSITION

Some Matters That Manufacturers Overlook in Treating With Their Agents.

"It is a sad mistake on the part of a manufacturer to think he can afford to treat agents in an indifferent manner," recently stated a prominent dealer to a Bicycling World representative. Continuing, he said: "No sensible person will for a minute claim that the agent can be allowed every little thing he makes a stab for, but there are reasonable mediums between the two extremes.

"Manufacturers should remember that the agent fills a very difficult position. He has to hear all the grumbles of the public, and act as a stop gap between it and the manufacturer. He is more necessary to the trade than ever he was, and to hold him down to a lot of red tape rules is as bad for the profit side of the maker's ledger as it would be to treat him in an easy going manner.

Look around you and you will find the successful firms are those who work with their agents, who treat them not only as customers, but as men who merit supporting in a reasonable business way. On these lines lies the business for the makers. There are undoubtedly dealers who, from habit or some other cause, complain of everything; but it is part of the duty of some one at the factory to separate the sheep from the goats.

"The buyer of a bicycle does not rush into a store and buy the machine, but begins by thinking a bicycle a pretty good thing to own. From this it is a transition to the thought that he will own one, and here is where the dealer first comes into the affair as a factor. It is his duty to get that customer onto one of the machines he is selling. It is here that selling ability comes in, and when this will be backed by the fact that he has a store, these two will induce business that no maker can take care of at long range.

"The maker may realize these two factors and yet minimize or overlook the fact that they are only a small part of the agent's work. A curious trait in the makeup of a cyclist is that, although on the road the most independent of mortals, he is the most dependent individual with reference to troubles, fancied or otherwise, with his machine. He grabs at advice. He rarely follows it, but is always seeking for it.

"A certain amount of every agent's time is used up in just gossiping with customers. This may seem unprofitable at the time, but the bright agent knows when to differentiate that future business may accrue. The more friendly he can be with his customers the more business will follow in the future.

"No matter how good may be the machine minor difficulties will arise. Sometimes it lacks thorough adjustment as received from the factory, and any agent who knows his business will look for this thing before he makes a delivery. Even then some little thing may go wrong that is simple in itself

but annoying to the buyer, particularly if he had to send to some far off point.

"Instead of that he walks down to the agent, does a little harmless grumbling, which the agent takes in good part, in the mean time fixing him up to his satisfaction. He then goes away satisfied, and tells his friends what a good fellow that particular dealer is, all for the good of future and spreading business.

"As a case in point, on the entire subject, let me relate a recent occurrence in my own affairs. I sold a man a new machine last fall. A recent warm spell came in our section and this man went out for a ride. A little fault developed in the machine. It was a new one for me to handle, and I was not prepared to take care of every demand that might be made, particularly for that part that needed renewing. The part was peculiar to the machine, and I wrote for a new one. The reply was that it would cost me \$150 and would be sent on receipt of remittance for that amount.

"I didn't remit, because even my customer, green as he might be to mechanical matters, would have realized that the price was exorbitant if I dared to charge for it, and I would have had to stand the brunt of his indignation. I made a new part myself at a third the cost, with only repair shop facilities, kept my customer from knowing the factory ways, stood the cost myself, and have found that I can get along without that particular make of machine this year. Not because this is the only case of like treatment, owing to this maker's peculiar rules, but because it has been my experience with this maker several times before. I only relate this one case, as it is of very recent occurrence.

"All these things tell, and it is through them that agents build up business and connections in their vicinity, and it is the lack of them that makes him succumb to his rivals."

Resistance ; What it is.

The subject of resistance comes up so frequently in electrical works that an explanation of its meaning will be appreciated.

Resistance is offered to the passage of a current of electricity even when passing through the best conductors. With all the conductors yet known, a certain loss must take place—that is to say, the pressure of current will be diminished by the passage through the conductor. The current does not really pass through the wires, but outside them, and the larger the diameter of the wire employed the less will be the resistance to the passage of the current.

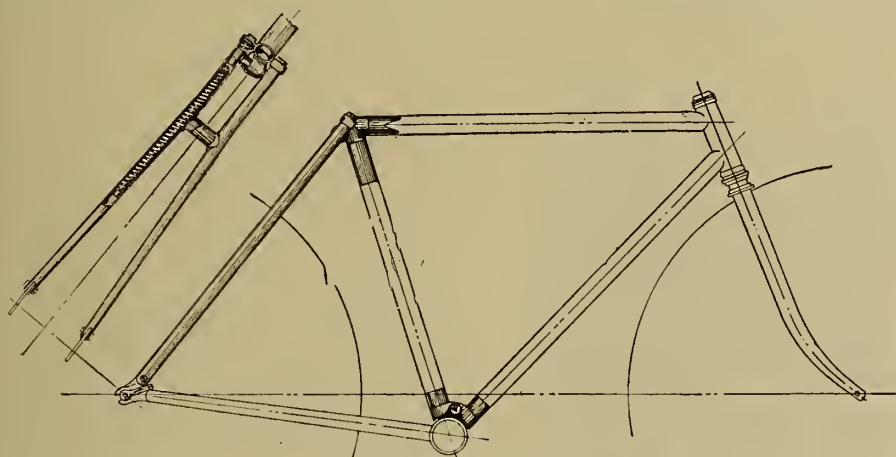
Given two wires, one exactly double the diameter of the other, the resistance offered by the larger wire will be four times less than that of the smaller. Resistance is expressed in ohms, and one ohm is taken as the amount of resistance offered by 129 yards of one-sixteenth inch copper wire; but as the quality of the wire varies so does the resistance.

REGAS GAINING GROUND

Popular Priced Spring Frame Finding Favor—Its Many Good Points.

Any doubts that the Regas spring frame would not prove a factor in the trade are being rapidly dispelled. Its makers, the Regas Vehicle Co., of Rochester, N. Y., have orders in sufficient volume to give weight to the assertion; the clean cut design of the frame, coupled with the facility with which it may be built into a bicycle and sold at a popular price, earns for it recognition almost wherever shown, and the demand is sufficient to demonstrate that there is room in plenty for an anti-vibratory bicycle of the sort.

The illustration is evidence that the frame



is attractive in appearance and entitled to the attention it is receiving, and in the nature of things it is likely to receive more of it so soon as the riding season is in full swing.

The illustration shows also the mechanical details of the frame, one of the rear stays being cut away to make plain one of the concealed springs. There are two of these springs resting upon bottoms securely pinned and brazed within the rear stays at a point about the centre of their length. The pistons, flexibly connected to a special seat post cluster, play up and down through slots cut in the inside of the stays, and compress the springs more or less as the load is applied. Dust shields attached to the pistons and travelling with them serve to cover the slots, keep out the dirt and keep in lubrication. An oscillating hinge device at the hanger completes this very simple and efficient device, without detracting one particle from the popular, up to date design now universally used by all bicycle manufacturers.

The fact that the Regas company makes a spring attachment sufficiently strong for motor bicycles—in fact, especially designed for the purpose—is in itself of considerable interest. Vibration is one of the motorcycle's chief enemies, and any device that tends to overcome it cannot be suffered to pass un-

noticed. By using their spring frame the Regas people claim vibration is reduced to a minimum, and motor, carburetter, fuel tank and muffler are not jarred out of place; connections remain perfect, and all the alignments correct; bolts and nuts do not jar loose and the frame and wheels of the machine are relieved from the racking and discomforting pounding, all of which is well within reason.

About Yales and Snells.

The 1902 catalogues of the Yale and Snell bicycles, although late in making their appearance, are none the less attractive and distinct in their makeup. The Yale cover shows the college boy with his cane and flag in typical attitude, while the Snell cover is distinguished by a cleverly conceived shield and crest. In addition to the Yale attention is called to the second year of the

Cornell, a wheel that can be sold at a less price than its older college chum.

In the Yale and Snell machines a complete line of models are offered to meet every modern requirement, including chainless and cushion frames, as well as three sizes of juveniles. The Cornell is made in the two models of diamond and drop frame.

The two features that at once arrest attention in looking through the catalogue are that all drop frames are made with the two tubes from the head, both curved in graceful lines, and that the racers and pace following models are made with 15-16 inch frame tubes.

It goes almost without saying that the famous Hussey handlebar is shown in many of its possible forty-five distinct positions, in all of which the grips remain the same distance apart. This handlebar is a taking option, in addition to the many others offered as regular equipment.

Augusta's Police Bicycles.

Augusta, Ga., is about to institute a cycle mounted police squad. The call for bids for the necessary bicycles brought so many offers from the local dealers and their figures were so nearly alike that the committee commissioned to select the mounts was so embarrassed that it could not reach a decision. Accordingly, the matter was referred to the full Police Board.

BOOM BLAMED AGAIN

Renouf Says it Stagnated Ingenuity—Improvements he Considers Possible.

In a lecture before the Coventry Engineering Society dealing with the oft discussed evolution of the bicycle, P. L. Renouf, who contributed his full share of the evolution, interjected some remarks that are worthy of general consideration.

From the point of design, he said, the bicycle had been at a standstill for some few years, and it was desirable to see whether there is any necessity for such a state of affairs. It was certainly not for the good of the trade. His object in introducing such a subject to a society which contained a large number of young mechanics was to make them think, as by that means alone progress could be made, and the younger portion are not necessarily likely to follow in the one groove in the way the older mechanics were doing. He desired to show how the bicycle they all knew had been evolved, and also to ask them to consider whether there were not possibilities of further developments.

The question first presenting itself was, "What is a bicycle?" Mainly it may be said to consist of two frameworks hinged together and fixed upon two wheels, one for driving, one for steering. The following questions, Renouf said, were worthy of very careful consideration:

First—What is nowadays generally understood under the term bicycle?

Second—What is the parentage of this so-called bicycle?

Third—How was it evolved into its present shape.

Fourth—What are the considerations with respect to wheel base, steering, etc.?

Fifth—Has it attained full manhood?

Sixth—Why has it practically remained unchanged?

Seventh—Is it bound to remain unchanged or are there possibilities of a fresh revolutionizing change in design or principle?

Eighth—Is the present stagnation in design desirable or necessary?

Ninth—Have bicycles on totally different principles existed, and is there a possibility of their revival?

The lecturer then proceeded to explain a large number of lantern slides illustrative of the progress of the industry. Coming to the matter of deductions, Mr. Renouf held that the one thing that had kept the trade back, so far as practical design was concerned, had been the effect of the cycle boom. Cycle construction reached a certain pitch and gave so much satisfaction to the public that when the demand was being supplied manufacturers thought they could not give any attention to design, and consequently all effort was made merely in the direction of production. All time given to production was all right for

a time, but we are now suffering from monotony of design.

"We should ask ourselves, Ought we to be satisfied?" he went on. "We should take the back and the front of the bicycle and endeavor to evolve various points. The first thing that was bad would be found to be the front fork. No one apparently sees any necessity to alter this, since all effort for improvement has been devoted to the rear portion."

Are the conditions of steering on the old ordinary and the modern rear driver the same? He thought not. Upon the old bicycle the straight fork with curved section was all right, but it was questionable whether it was the best method for the machine of to-day.

What were the objects of the front fork and handle bar? First, to hold front wheel, and, second, to steer.

With regard to the latter, in the case of a dropped handlebar, what a roundabout fashion it seemed to steer the wheel from the axle.

The lecturer then suggested dispensing with this, and introducing two tubes from front wheel axle to the points where the rider holds the handles, with a stay across the centre.

A special racing machine was also illustrated which was fitted with a real diamond frame. The deductions of the speaker, which led him to design such a frame, were given, and proved very interesting. He considered it quite possible to build a bicycle light, strong and simple that was not according to the recognized pattern, and remarked that if some of the energy now employed in the endeavor to cut out competitors were utilized in bringing out improved designs it would be devoted to a much better purpose and may result in benefit.

There were many good things in the bicycle that had not been discovered, for the simple reason that it was not considered worth while to look for them. It was very regrettable, he concluded, that the trade should attempt to stand still, and it was certainly high time some further improvement was made.

The Retail Record.

Toledo, O.—Charles De Vaux has reopened store.

Shelburne, N. Y.—Walter S. Colwell succeeds J. C. Robinson.

Zanesville, O.—Lindsay & Bennett succeed Harsch & Bennett.

Lebanon, Pa.—Business of Jonas L. Knoll, deceased, will be carried on by Mrs. Knoll.

Cambridge, Mass.—Thomas Thompson succeeds Thompson & Taylor.

Athol, Mass.—French & Co. purchased business of George Davis.

Findlay, O.—Harry Bennett's loss by fire, \$3,000; insurance, \$250.

Maynard, Mass.—B. J. Coughlin has enlarged store.

Redlands, Cal.—Harry Gregory succeeds H. Jacobsen.

Owego, N. Y.—M. H. Gaskill has reopened repair shop.

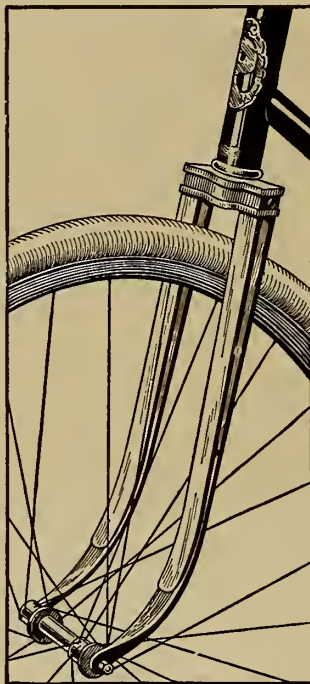
From Cycles to Chemicals.

In the whirligig of time many changes take place in all walks of life, and it is perhaps due to this that a recent change has taken place in the affairs of a former Chicago cycle concern. Most cycle concerns that do make changes advance to some newer line of effort, as progressive thought seems to be peculiar to those who enter the cycle trade, and the advance is made from one solid to another.

It is a fluid change, however, that has taken place in this instance, and the Griswold Cycle Company has changed its name to the Antiseptic Chemical Company, same, place, the object of the change being to manufacture chemicals. The bicycle trade has been accused of much weakening, but this is perhaps the first case on record where it has taken an absolute soluble course.

Adding to Cycling Luxury.

With a reputation for not being content to let well enough alone, and as the first



manufacturers to seize the spirit and value of the cushion frame, it is not strange that the George N. Pierce Company, of Buffalo, should evolve and adopt what many at this time would think a radical innovation—a spring fork.

The Pierce people aim at the perfect bicycle, and their fork—it is unlike any spring fork the trade has ever known, as the accompanying illustration attests—is a further step in that direction. It is applied to the Pierce cushion frame chainless, and accomplishes for the head of the bicycle what the cushion frame accomplishes for the rear; it is comparable with the perfectly hung coach. The fork, which is applied only to the Pierce, is composed of a main spring and a reinforcing spring which form the fork sides, both of which springs are brazed into the cone.

Boston, Mass.—Nelse A. Lawson has opened a repair shop at No. 37 Chardon street.

ODDS AND ENDS

Fred W. Voight, the well known manager of the Vailsburg (N. J.) track, is down with smallpox. He was removed to the isolated hospital in Newark on Monday.

The Century Wheelmen, of this city, and the Bay View Wheelmen are believed to be the largest purely local cycling clubs that remain. Each has some four hundred members.

At the 74th Regiment Armory, Buffalo, on February 22, Ray Duer defeated McEachern in a pursuit race. Duer caught McEachern after three miles, 1,670 yards had been ridden. Time—9:53 4-5.

The Rev. Thomas Douglass, of this city, is organizing a European cycle tour, which will sail from this city early in August. The party will be limited to twenty-five, and will be made up of men only.

This year's paced racing will see the use of large powered motorcycles. Up to this year 3½ horse power was about the largest used in this country, but, following European methods, the horse power on some machines will run up to the figure nine.

Bert Lund, of Oakland, Cal., is preparing to undertake a cross continent trip that will extend into Canada. The fact that he inquires of The Bicycling World for information regarding the rules governing century runs implies that he will do no lagging on the tour.

Syracuse plans to hold Sunday race meetings this year. The attempt was made last year, but was stopped by the Sunday Order Association, who, however, failed to stop baseball in an adjoining field. It is reported that the owners of the track now have permission to go ahead with Sunday cycle racing.

At the Coliseum track, Atlanta, February 24, seven teams started in the twelve hour cycle race. The contestants are to ride two hours a day for six days. The teams comprise the following riders: Leander and Rutz, Fenn and Caldwell, Lake and Turville, Hadfield and Galvin, Lawson and Barclay, Fields and Russell Walthour, Hunter and Bennett. Each of the above teams rode forty-four miles and three laps the first night.

If the N. C. A. acts on a suggestion which it has been seriously asked to consider, little men padded out to the proportions of balloons will appear on the rear seats of pacing tandems hereafter. Big men in that position are said to be hard on tires, and are therefore a source of expense, while little fellows do not afford the racer sufficient wind protection. Padded clothing is offered as a solution. No less a person than F. Ed. Spooner is credited with the suggestion,

CRAIG ON MOTOCYCLES

**He Lectures at Length on the Subject--
Some of his Views.**

One of the best attended meetings of the Cycle Engineers' Institute of England on record was held on February 6 at Birmingham. The occasion was the reading of a paper on motor bicycles by Alexander Craig, and the subject was, of course, responsible for the large gathering, as the British makers have pretty well plumped for this least expensive form of motor vehicle that can be made.

In England the business has assumed greater proportions than is generally known or realized in this country, and that the cycle makers of that country are giving the matter careful consideration is best attested by the large attendance reported. In spite of these incentives, the received reports of the paper show that, while it was a long one, it must have been somewhat disappointing inasmuch that it failed to give hardly more than the catalogues or other printed matter of the makers would furnish.

After giving a brief description of thirteen bicycles and two tandems, all of which have been illustrated and described in *The Bicycling World*, the lecturer took up the subject generally.

After giving the views of the theorists as to the best position of the motor in its effect on side slipping, he stated that which is recognized by most of those who have had a really wide experience, and that is that practice has demonstrated machines with motors wholly above or partially below the crank-hanger can be satisfactorily made. For convenience in handling when off the machine the low position is best.

With the usual British trait of getting into controversies over theories, the cycle press of England is loaded down with letters on the gyroscopic action of the flywheels in its effect on the stability of the bicycle. The lecturer stated that this was nothing so much as is commonly supposed, and that, as a matter of fact, is so small with the light flywheels at present in use that it may be neglected.

Regarding cooling, the opinion was advanced that where high power was desired, such as for tandems, the use of water-cooled engines might come into favor. The arrangement need not be at all cumbersome, and a water cooled motor could be fitted into positions in the frame which would be impracticable for an air cooled motor, owing to the proximity of the rider's person and the difficulty of obtaining sufficient draught to keep the engine cool.

The reduction in size of flywheels was next considered, as they form the chief element in the weight of the motor. The proposition was put in the following manner:

Suppose the machine to be geared so that

it runs twenty-four miles an hour when the engine is making 1,800 revolutions a minute, probably the motor bicyclist would be satisfied if his engine commenced to work as soon as he got up a speed of two miles an hour by pedalling to start it. This would mean 150 revolutions per minute of the engine, and the weight of the flywheels should be such that their momentum at 150 revolutions, together with the energy of the first explosion, would just carry the engine over the next compression.

As a matter of fact, existing engines can be started at a much slower speed than this. Indeed, when mounted on the test bed the engine may be pulled round slowly through the suction stroke in order to get a charge, and if the spark be adjusted to take place just after the commencement of the working stroke, the engine may be brought to a stand at the top of the compression stroke, and on being pushed gently forward the explosion will take place and carry the



NEW YORK BRANCH: 214-216 WEST 47TH STREET.

engine over the next compression so that it will continue working. It thus appears that the present weight of the flywheel might be considerably reduced without impairing the starting power of the engine at low speeds.

Of course, the flywheels have another function to perform in evening up the irregular impulses of the single cylinder engine, but these are not very noticeable when the machine has attained even a moderate speed. If a motor bicycle were fitted with an engine having extremely light flywheels and a disengaging clutch, the machine might be started by pedalling and the engine thrown into gear with very little shock indeed.

On the subject of bearings the importance of size was dwelt upon and attention called to the point that with proper designing they could be made of ample size and yet permit the motor to be placed near a crank bracket having standard tread.

In the matter of carburetters recognition was given to the fact that extended experience seemingly proves that the spray de-

vice will replace the surface device. Attention was called to the recent Paris show, where the spray was almost wholly used, the older makers replacing it for the surface carburetter used on earlier models.

Regarding ignition it was premised that the ignition apparatus of a motor bicycle, in common with that of other motor vehicles, is the part which most frequently gives trouble. Electric ignition is now of course universal, but the current may be supplied either by primary battery, secondary battery, or magneto. In the last case, it is a low tension current, while the former two are employed in connection with an induction coil to produce a high tension current, giving a jump spark in the cylinder.

It should be borne in mind that just the same spark is required to fire the charge in a motor bicycle engine as in that of a large car, and having regard to the high speed at which the small engine runs, every care should be taken to make the apparatus thoroughly reliable. As a rule, the induction coils used on motor bicycles have no trembler, the interruption to the current in the primary circuit being made by the contact breaker, which is generally of the type producing one spark only instead of a stream of sparks, such as the trembler coil gives on the large cars. Probably the small space available has accounted for the inefficient contact breakers that have been fitted in the past; and the necessity having been seen for something better, these troubles will soon be eliminated.

Magneto ignition has proved successful on a few makes, and its general adoption, not necessarily in the low tension form, would, at any rate, remove one source of anxiety from the mind of the rider. The current generated by the magneto could be passed through an induction coil and used for a high tension spark with the ordinary plug; but low tension arrangement, in which the current goes directly to the mechanically operated wiper in the cylinder, is simpler.

The method of connecting the motor to the driving wheel was next treated in its important effect on the efficiency of the mechanism as a whole and its material influences on the general arrangement.

The simplest form of transmission is that in which the connecting rods of the engine drive directly on to cranks on the back wheel axle. The arrangement is open to many objections, unless it be made in the four-cylinder form, and the tires of the back wheel soon become badly worn.

The method of transmission, which comes next in the way of simplicity, is the belt drive, which is so largely used on motor bicycles at the present time. A twisted leather belt is generally employed, running in V-grooved pulleys. This drive has the merit of being very smooth in its action, and by admitting of a little slip between the belt and the pulley prevents any irregular working of the engine having effect on the rider. It is also conveniently detachable in case the engine fails and has to be disconnected.

It has been a matter of surprise, how-

ever, to many who have had experience in motor car construction that the belt should have survived so long as a means of transmission in motor bicycles, since the conditions are more unsuitable than in the case of larger cars, where it has been superseded by chain or gear drive. The use of higher powered engines this year has certainly revealed the inadequacy of the round belt in many cases, and some manufacturers have adopted a flat belt in preference. Probably the belt drive will eventually lose favor except for low powered machines, and some form of chain or gear drive, with a spring or slipping clutch in one of the wheels, take its place.

In commenting on gear drive attention was called to an English machine where the pinion on the motor shaft drives directly the internal gear ring on the road wheel. It forms a very efficient method of transmission, and one that has already been proved practicable on motor tricycles. However, there is no doubt that it would be considerably improved if it were made more elastic, so that the shocks of the engine should not be imparted to the rest of the machine. This applies to all positively driven motor bicycles as well as to tricycles and quads, but at the same time very good results can be obtained from positive gear in which there is no elastic element.

In the opinion of the lecturer, chain transmission will probably become the most popular in all cases where the engine is not sufficiently near the road wheel to admit of

spur gearing being used. Its efficacy is undoubtedly higher than that of the belt, and, as has already been remarked, it can be made as smooth in its action. If the reduction from the engine to the road wheel be attempted in one step, a very large and unsightly sprocket wheel or belt pulley must be fixed to the driving wheel.

With the high efficiency obtainable on a chain drive it may be worth while to make the reduction in two steps, in which case the drive would appear less clumsy, and a suitable gearcase could be easily fitted. Chains were used at the earliest stages of motor bicycle construction, and had the initial stages of business taken place in this country (England) instead of abroad, most probably the chain drive would be as common as the belt drive is at the present day.

By use of worm gear the necessary reduction between the engine and road wheel can be effected in a very small space, and, although the worm is certainly less efficient than spur gearing, yet if well designed and properly made, it is doubtless more efficient than the belt drive commonly used.

Ball bearings, of course, should be used throughout in the transmission gear of a motor bicycle, and where chains or spur gearing are used proper gearcases should be used wherever possible, both for the sake of cleanliness and efficiency.

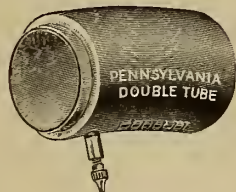
Two-speed gears have been fitted in some few cases, but this seems to be an unnecessary complication except for very hilly

country. It is also convenient when the engine is not working up to its normal power, but it frequently happens, in cases where a low speed gear is fitted to a vehicle propelled by an air cooled engine, that the driver, in his endeavor to get up hills quickly, will race his engine on the low gear, and this, of course, leads to overheating and loss of power.

It is useful to have some means of disconnecting the engine from the road wheel without dismounting from the machine. If such an arrangement be fitted the rider can mount the machine with the frame disconnected, and put the latter into gear after he has started. The momentum of the machine and rider will then carry the engine over its compression and start it without excessive exertion on the part of the rider.

Such a disengaging clutch should be preferably of the friction type, in order to minimize the shock of throwing the engine in and out of gear, but as the flywheels and other moving parts are comparatively light in a motor bicycle, some makers have fitted positive clutches for this purpose, and they answer fairly well in practice, especially where a belt drive or other elastic drive is used. It would certainly be an improvement in any motor bicycle if means were provided for disengaging the engine without removing any part, such as the belt or driving pinion, and if such device could be operated without dismounting a good deal of downhill work would be done with the engine stopped or running slowly.

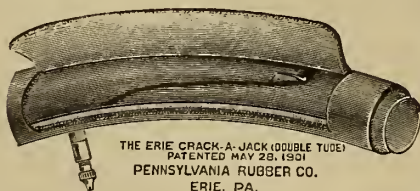
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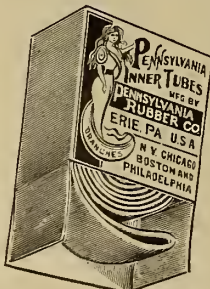


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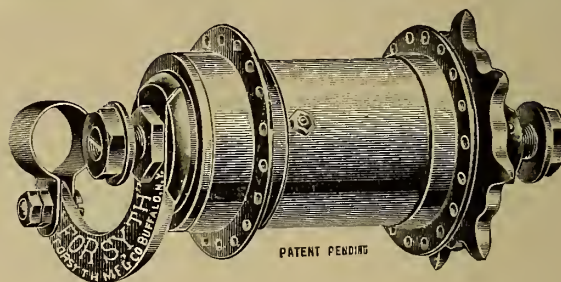
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The Week's Patents.

693,370. Bicycle Support. Hugh Burnet, Victoria, Canada. Filed May 17, 1901. Serial No. 60,716. (No model.)

Claim.—1. In a bicycle support of the class described, the combination with support legs of the attachment piece 4 bent to partially encircle the tubular frame of the bicycle; downwardly turned parallel sides 4b; the clamping screw 5 through such sides; the apertures 6 through the forward end of the sides 4b; the slit f from the aperture; outwardly inclined sides 4c from the lower edge of the apertures; the shouldered strut 7 and the stops 8, substantially as described.

693,372. Circuit Breaker for Electric Igniters for Explosive Engines. Ferdinand E. Canda, New York, N. Y. Filed Apr. 14, 1900. Serial No. 12,829. (No model.)

Claim.—1. In a circuit breaker the combination, with a cam adapted to cause vibration of a vibratory follower, and means for operating the cam, of a vibratory follower therefor, and a second vibrator adapted to be set in vibration by said follower when the latter is actuated, and to make and break contact with said follower in such vibration, whereby a succession of sparks may be produced, each time the follower is operated.

693,379. Bicycle Coupling. George R. C. Davis, Manchester, N. H., assignor of one-half to John Champoux, Manchester, N. H. Filed Aug. 8, 1900. Serial No. 26,230. (No model.)

Claim.—1. As a mean of coupling two bicycles one forward of the other, a bar or tube provided at its ends with extensions formed of helically bent spring wire, suitable hooks rigidly attached or formed integral one at the free end of each helical extension, and bands adapted for attachment one to each bicycle and having each a socket to which the hooked end of either helical extension may be firmly secured.

693,462. Combined Carburetter and Gasolene Regulator. John C. Titus, Marion, Ohio. Filed Aug. 28, 1901. Serial No. 73,550. (No model.)

Claim.—1. The combination, substantially as set forth, of a hollow carburetter body having a horizontal outlet, a gasolene cup disposed in the base of said body and having its rim disposed inwardly away from the wall of the body and having a rim portion at and as high as said outlet, a top to said body having a portion projecting down thereinto and concentrically within said gasolene cup and having a funnel shaped air opening vertically through it, a gasolene nozzle arranged to deliver into said gasolene cup, and a valve to control the flow through said nozzle.

693,472. Coaster and Brake Mechanism for Cycles. George T. Warwick, Springfield, Mass., assignor of one-half to George M. Hendee, Springfield, Mass. Filed May 21, 1900. Serial No. 17,355. (No model.)

Claim.—1. In a driving mechanism for a bicycle or other vehicle, in combination, a rotary driver, as a sprocket wheel, the hub of the wheel to be driven, and a fixed axle about which the driven wheel turns, a support ring normally free or disconnected from the axle and from the wheel hub, a clutch part pivotally mounted on said ring, engaged and actuated by the sprocket wheel, whereby a propulsive force on the driver sprocket establishes and maintains a connection for power transmission through such engagement member between the sprocket or driver and the wheel to be driven.

693,521. Separable and Reversible Cycle. Frederik Ishøj, Copenhagen, Denmark. Filed Feb. 13, 1901. Serial No. 47,160. (No model.)

Claim.—1. In combination with two cycle frame sections having tubular parts adapted to be arranged in line with each other, a pin adapted to pass through the said parts for uniting the said sections, and having at its lower end a head or knob which is flattened at the sides, one of the frame sections being provided with an opening of similar shape, in order that the said head or knob after passing down through the said opening may be used to lock or unlock the frame at will by turning the said pin, substantially as set forth.

693,529. Cooling Explosive Motors. Thomas Myers, New York, N. Y. Filed Feb. 14, 1901. Serial No. 47,972. (No model.)

Claim.—In an explosive motor, the combination of a cylinder, a plurality of ribs extending longitudinally upon the same, a jacket, surrounding the cylinder and provided with an air inlet near the exhaust, an annular space arranged between the jacket and the cylinder surrounding the lower part of the latter below the ribs, a fan mounted upon the crank-shaft to rotate therewith, a casing for said fan, and a passage communicating from the aforesaid annular space to said fan casing; together with ribs upon the head of the cylinder surrounding the exhaust passage, said ribs being arranged to deflect a current of air into the passage existing between the various longitudinal ribs.

693,661. Vehicle Tire. John F. Lober, Pittsburg, Penn. Filed July 12, 1901. Serial No. 68,074. (No model.)

Claim.—1. A vehicle tire comprising a hollow inflatable body portion triangular in cross section, and a wide tread portion connected to the outer end of said triangular body, substantially as shown and described.

693,747. Tire Inflating Device for Vehicles. Michael M. Sinnott, Northampton, Mass., assignor of one-half to John William Sinnott, Northampton, Mass. Filed July 8, 1901. Serial No. 67,453. (No model.)

Claim.—1. In a self-propelled vehicle the combination with the hub of a wheel thereof, of an annular chamber thereon rotatable therewith, having one open side; an annular head fixed on a stationary part of the vehicle for closing the open side of said chamber, an air compressing device on the vehicle and an inflatable tire on the wheel; a pipe from the compressing device communicating with said chamber through said head, a pipe from said chamber communicating with the said tire, a check valve in said last named pipe, substantially as described.

693,815. Ball Bearing. Frederick Erdsiek, Minden, Germany, assignor to Hoppe & Hermann, Minden, Germany, a firm. Filed Sept. 7, 1901. Serial No. 74,697. (No model.)

Claim.—1. In a ball bearing, the combination with a hub or casing and two non-adjustable ball bearing surfaces therein, of an adjustable ball bearing cup screwed into said hub or casing, a worm wheel connected with said ball bearing cup, and a worm mounted in said hub or casing and gearing with said worm wheel, the said hub or casing completely inclosing all said parts and serving as a housing therefor, substantially as described.

"Defects (in motorcycles) and How to Remedy Them." See "Motorcycles and How to Manage Them." \$1. The Goodman Co., Box 649, New York. ***

The Week's Exports.

February is in a fair way of proving a record breaker in the matter of cycle exports, as such records go nowadays. Last week was another of large shipments, Germany again taking a five figured purchase. Denmark was the next heaviest buyer, Holland, England, France, Italy and Russia accounting also for tidy parcels. The record in detail follows:

Abo—5 cases bicycle material, \$280.

Amsterdam—53 cases bicycle material, \$1,905.

British West Indies—17 cases bicycles and material, \$580.

British Guiana—6 cases bicycle material, \$339.

British Possessions in Africa—2 cases bicycle material, \$30.

British East Indies—38 cases bicycles and material, \$1,862.

Bremen—1 case bicycles, \$30; 16 cases bicycle material, \$616.

British Australia—1 case bicycle material, \$75.

Christiania—4 cases bicycle material, \$389.

Copenhagen—377 cases bicycles, \$7,116; 45 cases bicycle material, \$1,796.

China—7 cases bicycles and material, \$300.

Dutch Guiana—2 cases bicycle material, \$36.

Dutch East Indies—16 cases bicycles, \$1,499.

Ecuador—2 cases bicycles, \$28.

Frankfort—8 cases bicycle material, \$126.

Genoa—1 case bicycles, \$25; 49 cases bicycle material, \$2,328.

Hong Kong—8 cases bicycle material, \$149.

Hamburg—919 cases bicycles, \$24,060; 38 cases bicycle material, \$1,209.

Havre—66 cases bicycles, \$2,500; 22 cases bicycle material, \$1,125.

Japan—46 cases bicycles and material, \$823.

Landserona—6 cases bicycle material, \$251.

London—28 cases bicycles, \$342; 16 cases bicycle material, \$1,161.

Liverpool—42 cases bicycles, \$885; 16 cases bicycle material, \$715.

Milan—8 cases bicycle material, \$400.

Malta—1 case bicycle material, \$15.

New Zealand—40 cases bicycles and parts, \$1,160.

Nuremburg—3 cases bicycle material, \$124.

Rotterdam—57 cases bicycles, \$1,202; 63 cases bicycle material, \$1,700.

Pern—1 case bicycles, \$75.

Siam—2 cases bicycles, \$75.

Southampton—2 cases bicycles, \$70; 40 cases bicycle material, \$2,737.

Stockholm—57 cases bicycle material, \$653.

St. Petersburg—14 cases bicycles and material, \$2,029.

Swansea—1 case bicycles, \$25.

United States of Colombia—2 cases bicycles, \$30.

Uruguay—12 cases bicycles, \$380.

Warburg—4 cases bicycle material, \$398.

Look to the Window.

As the inquiry and selling season is now approaching, the dealer should look into the matter of his window display. Because one is a small dealer the importance of this factor in business should not be underrated and set to one side. The value of window display is constantly before us, as carried out by the large drygoods and department stores, and to minimize this value by thinking business is too small is a grievous error.

The arrangement of goods must be left to individual taste and ability, but whatever scheme is carried out, the fundamental idea should be cleanliness and the avoidance of overcrowding. The selection of backgrounds, such as the color of the floor and sides, should be made with a view to local conditions of dust and grime in order that they

will not become dingy in the first day or so.

If plants of any kind are used let them be few in number and well attended to, that they may not present the appearance of drooping to death. The window should not be made a flower show, and the surroundings should be such that the fresh green of the plants do not show up the poverty of the other fittings. With care the suggestion can be made of the country to which the contents of the window are to carry the looker-on.

The freshness of the displays to be made will be insured, and deterioration in the value of the goods on show will best be guarded against by a dust proof window. It is true that the cost of this will be somewhat of a factor, in the glass and sash made necessary, but if the display is of any value it will be repaid by the saving on the finish

of the goods and the time used each day for dusting.

If a closed-in window is used the goods the dealer, then dusting must be resorted to and the display should be made as small as it is possible to have it and yet be a display.

In the matter of light it should be remembered that in the daytime to permit the sun to shine in the window not only fades and tarnishes the goods, but prevents those on the outside from having a good view. At night a few carbide lamps can be used to good effect, so placing them that the reflectors throw the light in front of the articles in the window.

If a closed in window is used the goods should be disturbed as little as possible, and when lamps are employed for light they can be put in place and removed with a long pole as an aid in this connection.

IT COSTS MONEY TO LEARN THE DIFFERENCE BETWEEN THIS



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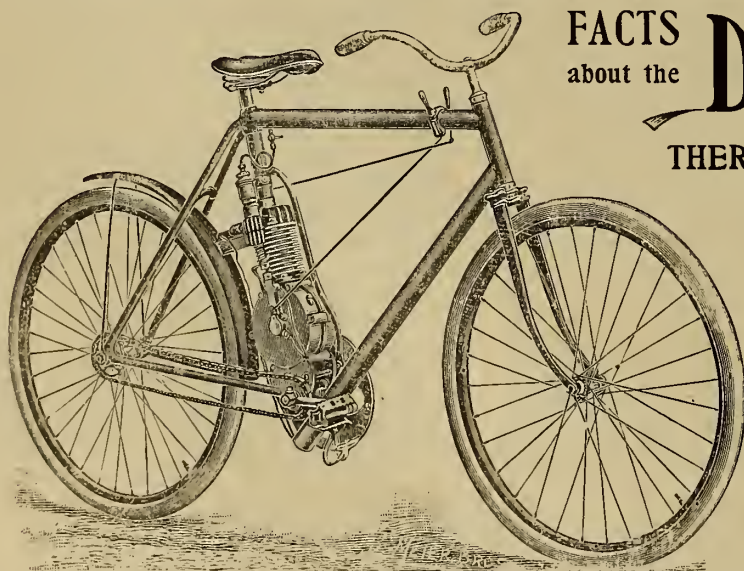
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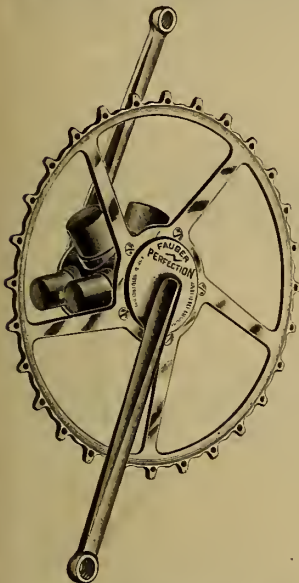
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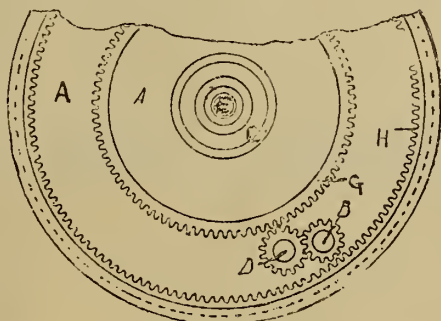
FAUBER
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Two-Speed Gear From France.

Among the French motor bicycles that have been illustrated in The Bicycling World is the Chapelle, which occupies a prominent position in the country in which it is made. One of the features of this machine is its two speed gear, which is illustrated and described herewith.

This gear occupies a position approximately the same as the crank hanger, where the motor is hung. The gear consists of two gear wheels, G and H, and two pinions, B and D. The pinions are moved up and down by a lever placed on the top tube of the frame, with the connecting rod placed inside the seat post frame tube.

When the lever is moved to its forward



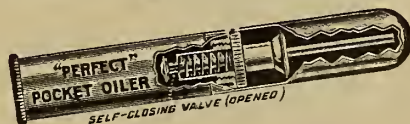
position the pinions move so as to engage with the larger gear H, in which position of parts the bicycle is running on the low gear. To change to the high gear the lever is pulled to its rearmost position, the pinion D swings into engagement with gear G. In a midway position the pinions are engaged with one another, but are free from both gears, thus permitting the engine to run free.

The Chapelle machine has been extensively used, and has made excellent showing in several French events, therefore criticism of this gear ought to be based on experience. Attention, however, should be called to the fact that the pinions engage face to face, not by sliding into engagement, which is regarded as bad practice on machine tools, such as the back gear of a lathe, as an example.

The Little Things in Business.

Business is made up of details of little things; whoever attempts to shirk them will fail. It is disagreeable to spend a large part of one's time on the dry, uninteresting items of the routine of business. They are tedious. But no great success was ever built up without close and careful attention to the little principles upon which success depends. There can be no system without details, says the "Business Magazine."

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are synonymous. Last season a few Cinch coaster brakes showed their purchasers the new principles that had been introduced in coaster brake construction. This season we have sold and shipped all but a few hundred that we originally intended to produce and are well along on the second lot and just starting a third edition. This explains why the **CINCH**, "the one that coasts," remains at \$5.00, why our price to the trade is higher than others on which prices have been "revised" two or three times since starting the season. It may offer some explanation for the "revision."

We don't want all the business—we don't want to sell those who are looking for the lowest price—we don't want to sell those who wish to buy on a past reputation established without competition—we only want to sell those who want the **BEST**—A trial of the Cinch will quickly demonstrate to you that it overcomes those annoyances you have suffered with others—Sell the Cinch and those annoyances will disappear—your troubles will be over—then you will wake up in the night and laugh.

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Tenth and Exeter Sts., READING, PA.

CHAMPION HUBS

Write for Complete Description and Prices.



(LIGHT WEIGHT RACING MODEL.)

ALSO REGULAR ROAD HUBS.

Worthy of Their Name.

VULCAN HUBS.

Cheap but Good and Well Worth Their Price.

I. A. WESTON CO., Syracuse, N. Y.
Selling Agents, C. J. IVEN & CO., Rochester, N. Y.

HIGH GRADE

wheels must have the
best equipments.

There is nothing that gives more value for
the money than the use of the

MORSE TWIN ROLLER CHAIN



NOISELESS IN MUD, WATER OR
DUST AND ALWAYS EASY RUNNING.

The only chain having Frictionless
Rocker Joints. Insist on having the
Morse Twin Roller. Fits regular
sprockets.

Send for Catalogue and
Trade Price to

Morse Chain Co., Trumansburg, N. Y.

WANTS AND FOR SALE.

15 cents per line of seven words. cash with order.

WANTED—A few small Gasolene Motors, new
or second hand. H. A. WHITE, Memphis,
Tenn.

FOR SALE—RIM MACHINERY.

Complete outfit of Cowdrey machinery for
making rims and guards. Capacity 300 rims and
70 guards per day. Outfit practically as good as
new. A fine opportunity to get a good outfit
cheap. H. M. LOUD'S SONS CO., Au Sable,
Mich.

HAND AND FOOT PUMPS,

Oilers, Repair Tools,
Valves, Name-plates, etc.

Spelter Solder

Sheet Brass,
Brass Wire and Rods.

SPECIALTIES to order
MADE OF BRASS.

SCOVILL MFG. CO.

Factories: Waterbury, Conn.
Depots: 210 Lake St., Chicago.
421 Broome St., New York

Bicycle Parts and Tubing

WRITE US FOR PRICES.

THE STANDARD WELDING CO.
CLEVELAND, OHIO

THE ARMSTRONG "A" CRANK HANGER



is conceded by competent judges to be the
most perfect in point of design, mechanical
construction, finish and materials used,
that it is possible to produce. Made in
one grade only, the highest. Handsome
in appearance; simple in construction; easy
and positive adjustment. We make the
most complete line of bicycle frame fittings
and crank hangers on the market.
Our 1902 prices are low. Write for them.

ARMSTRONG BROS. TOOL CO., Chicago.

ARNOLD, SCHWINN & CO.

CHICAGO.

WORLD BICYCLES.

Jobbing Wheels a Specialty.

LARGEST INDEPENDENT MAKERS IN THE COUNTRY.

Upon receipt of 40 cents in stamps we will mail one
dozen of the MAGIC as a sample trial to any part of
U. S. A. Ask your jobber for it.



THE MAGIC

A COMPLETE REPAIR TOOL FOR ALL
SINGLE TUBE TIRES.

HAS A POINT ONLY 1/16 IN. DIAMETER.

Bicycle salesmen wanted to handle the MAGIC as a
side line.

THE MAGIC REPAIR TUBE CO., 248 LARRABEE ST., CHICAGO, ILL.

IDEAL HANDLE BARS

The Standard Bars of America

Get our new prices on bars and extensions for 1902 and
you will be agreeably surprised. Electros for the asking.

IDEAL PLATING CO., 3 Appleton St., Boston, Mass.

THE CROSBY COMPANY,

BUFFALO, N. Y.,

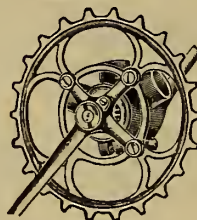
Sheet Metal Stamping.

The Admiral

THE ONLY LAMP WHICH BURNS
EITHER OIL OR GAS.

...Made by...

THE ADMIRAL LAMP CO., - Marysville, Ohio.



"D. & J." HANGERS

FOR
Single,
Tandem,
Triplet,
Quad and
Motor Cycles.

Lightest, Nearest Dust Proof, and
Easiest Running Hanger in the World.
Park City Mfg. Co., inc., Chicago

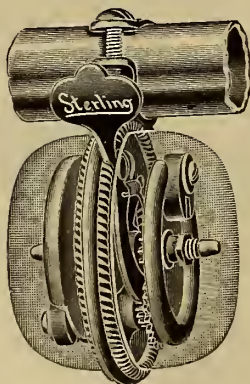
Sterling Continuous

NON-WINDING.

SIMPLE, COMPACT,
DURABLE.

EVERY BELL GUARANTEED.

FOR SALE BY THE WHOLESALE HARDWARE AND
SPORTING GOOD DEALERS,



(PATENT PENDING.)

Ringling Chime.

NON-REVOLVING.

Clear, Loud, Penetrating
Alarm.

N. N. HILL BRASS CO., Sole
Manufacturers
EAST HAMPTON, CONN.

SALESROOMS: 84-86 Chambers St., NEW YORK
45 Pearl St. BOSTON,

DO IT NOW

If your business shows signs of lethargy—

WRITE US

Don't put it off and think that tomorrow will do—

DO IT NOW

We want to tell you about the

Wolff-American

Regal and

Holland

bicycles for 1902. They are sold by representative dealers. They will give an eighteen carat freshness to your store. They have done it many times for others and can do the same for you—and—

DO IT NOW

Stearns Bicycle Agency
GENERAL DISTRIBUTORS
Syracuse, New York.

Keeping the Front Wheel Down.

To the present day riders it probably never occurs that the problem before the makers of the now extinct high bicycle was its stability. The rider's weight was thrown almost entirely on the front wheel, the small rear wheel being little more than a trailer. The result was that little was required to alter the point of gravity, the saddle, and cause a header.

In the evolution of the safety the proper distribution of weight was arrived at, although it took time even with the low bicycle. Many riders can remember the time when some of the safeties had the saddle placed so far back that in climbing a steep hill the machine was not entirely without a tendency to tip backward.

This tendency of the front wheel to lift is again in evidence with some designs that have been gotten up for pacing motor bicycles. In fact, there were two such machines used last year that, what with the position of the motor and the desire of the operator to get well back to act as a wind shield, required a dead load of twenty-five pounds near the fork crown to hold the front wheel down to the track.

About Unbrazing Joints.

It frequently happens that a repair shop has occasion to unbraz a joint for one purpose or another. The job is a simple one, but is often not carried out in the best manner.

It should be remembered that it is important to look out that the tubing is not burned or scaled in the operation. To prevent these conditions plenty of borax should be used, which will also give the advantage that the brass will run away more freely.

In removing the tubing from any joint it should be done while the job is in the fire. This advice is given, as some workmen heat the work and then take it to a bench vise to pull it apart. This is a mistake, as it may necessitate the reheating one or more times, wasting of the gauge and strength of the tubing.

"The Motor: What It Is and How It Works." See "Motocycles and How to Manage Them." \$1. The Goodman Co., Box 649, New York. ***

It is Not the Pace,

it is vibration

That Kills.

It is the constant jiggling, jarring and jolting; it is the bumping and the thumping that mars cycling pleasure and "tuckers out" the rider. It is the vibration that consumes energy and nervous force.

It was realization of the fact that gave rise to

The Cushion Frame.

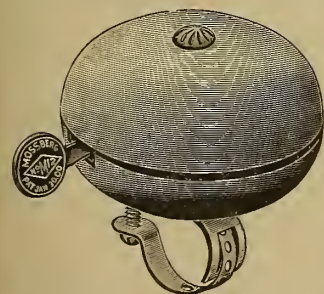
On it you can go further and faster with less fatigue and more comfort than on any other type of bicycle extant. It conserves the rider's energy, saves his nervous force and permits him (or her) to complete a day's ride not "tuckered out" but refreshed and invigorated.

The Cushion Frame is bringing back into cycling thousands who have learned its great value. It will bring back many more if bicycle dealers recognize and know how to make the most of a stimulant for which they long.

HYGIENIC WHEEL COMPANY,
OWNERS OF
CUSHION FRAME PATENTS
220 Broadway, NEW YORK.
Home Office, Philadelphia.

The Only Distinguishable Bell

THE ORIGINAL



Cuckoo Chime

It has been imitated, but never equalled.

FRANK MOSSBERG CO.,

The Wrench that is Always Ready.

REQUIRES NO ADJUSTMENT.

Length,
6
inches.



Weight,
8
ounces.

Will take any size of pipe, bolt or nut from 1-8 inch to 3-4 inch diameter. As strong as it is simple and has a grip like a prize bulldog, but will let go when you want it to do so.

Attleboro, Mass.

HAVE YOUR BICYCLE EQUIPED WITH A

NEW DEPARTURE COASTER BRAKE

SOLD EVERYWHERE BY EVERY BODY

MANUFACTURED BY
THE NEW DEPARTURE BELL CO.
BRISTOL, CONN. U.S.A.
SELLING AGENTS
JOHN H. GRAHAM & CO.
NEW YORK CITY.

SOLAR LAMPS

ALWAYS SATISFY.

Badger Brass Mfg. Co., Kenosha Wis.

FAST TRAINS

Chicago & North-Western Ry.

The Overland Limited

California in 3 days

The Colorado Special

One night to Denver

The Chicago-Portland Special

Oregon and Washington in 3 days

The North-Western Limited

Electric Lighted—Chicago,
St. Paul and Minneapolis

Duluth and St. Paul Fast Mail

Fast train to head of lakes

The Peninsula Express

Fast time to Marquette
and Copper Country

NO change of cars. The best of everything. Call on any agent for tickets or address

481 Broadway - New York 435 Vine St., - Cincinnati
601 Ches't St., Philadelphia 507 Smith's St., Pittsburgh
388 Washington St., Boston 234 Superior St., Cleveland
301 Main St., - Buffalo 17 Campus Martius, Detroit
212 Clark St., - Chicago 2 King St., East, Toronto, Ont.

All American wheelmen who desire to keep themselves posted upon matters concerning the cycle in Europe, its trade, mechanics, and sport, should subscribe to

THE CYCLIST

AND BICYCLING AND TRICYCLING TRADES REVIEW.

The only recognized authority of English trade and manufacture. Sent post free to any part of America for one year, \$3.25. American manufacturers having novelties in machines or sundries to introduce should advertise in

THE CYCLIST.

Terms on application to

LILPPE SONS & STURMEY, Ltd.,
19 Hartford Street, Coventry, England.

Members of the American Trade visiting England are invited to call at THE CYCLIST Office at Coventry or at 3 St. Bride Street, Ludgat House, London, E. C.



Through Train and Car Service in effect April 29, 1900.

TWO FAST TRAINS

	"Chicago" Special Via Lake Shore.	"North Shore" Special Via Mich. Cen.
Lv. Boston	10.45 A.M.	2.00 P.M.
Due Albany	4.10 P.M.	7.35 "
" Syracuse	7.55 "	11.25 "
" Rochester	9.45 "	1.15 "
" Buffalo	11.40 "	
" Toledo	5.55 A.M.	8.25 "
" Detroit		4.00 P.M.
" Chicago	11.50 "	

"Chicago Special" has through Buffet Library Smoking Car and Dining Car to Syracuse and from Toledo to Chicago.
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A. S. HANSON, Gen. Pass. Agt., Boston.

If you ride or sell,
or intend to ride or sell
motor bicycles

"Motocycles and How to Manage Them"

is the very book you need.

Every page teaches a lesson. Every illustration "speaks a piece."

And there are 126 pages and 41 pictures, too
Price, \$1.00.

The Goodman Co., 124 Tribune Bldg., New York.

If You are Interested in Automobiles,

THE MOTOR WORLD

Will Interest You.

It's readable,
and you can understand what you read.

Published Every Thursday
at 123-5 Tribune Building, New York.

\$2 per Year

Specimen Copies Gratis



Via Rockford, Freeport, Dubuque, Independence, Waterloo, Webster City, Fort Dodge, Rockwell City, Denison and Council Bluffs.

DOUBLE DAILY SERVICE TO OMAHA

Buffet-library-smoking cars, sleeping cars, free reclining chair cars, dining cars. Tickets of agents of I. C. R. R. and connecting lines.
A. H. HANSON, G. P. A., Chicago.

BOSTON & MAINE R.R.

LOWEST RATES
FAST TRAIN SERVICE

BETWEEN

Boston and Chicago,

St. Louis, St. Paul,
Minneapolis

and all points West, Northwest, Southwest.

Pullman Parlor or Sleeping Cars on all Through trains.

For tickets and information apply at any principal ticket office of the company.

D. J. FLANDERS, Gen'l Pass. & Ticket Agt.

BOSTON.

The Best Advertising Medium
for the Irish Trade is

THE IRISH CYCLIST

Specimen copy and advertising rates on application to

R. J. MECREDDY & SON, Ltd., Proprietors,

49 Middle Abbey St., DUBLIN.

THE BICYCLING WORLD

FOUNDED 1877
and MOTORCYCLE REVIEW

In which is incorporated "THE WHEEL" (New York) and the "AMERICAN CYCLIST" (Hartford)

Vol. XLIV.
No. 23.

New York, N. Y., U. S. A., Thursday, March 6, 1902.

\$2.00 a Year.
10 Cents a Copy.

THE TIME HAS ARRIVED

when the retailer must put in his hardest ticks to obtain the business that should be his.

The fitting of coaster brakes to new wheels and to old one's is a chief source of profit nowadays and no dealer should fail to make the most of it.



He who has posted
himself on the subject
need not be told that



THE BARWEST

is the coaster brake that affords the most
profit and the greatest satisfaction.

He who has postponed writing us can afford to delay no longer. Delays are dangerous and mean the loss of good money that can never be recovered.

BARWEST COASTER BRAKE COMPANY, 83 Chambers Street, New York.

PACIFIC COAST DISTRIBUTORS: Phil. B. Bekeart Co., 114 Second St., San Francisco, Cal.

See that Bicycle?

LOOKS ALL RIGHT? IS RIGHT.

IT IS FITTED WITH A

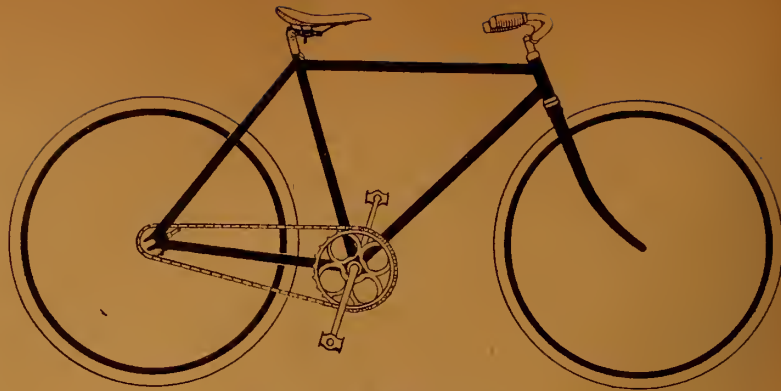
REGAS SPRING FRAME

and is the most comfortable bicycle on earth. No doubt about it.

UP TO THE MINUTE IN DESIGN.

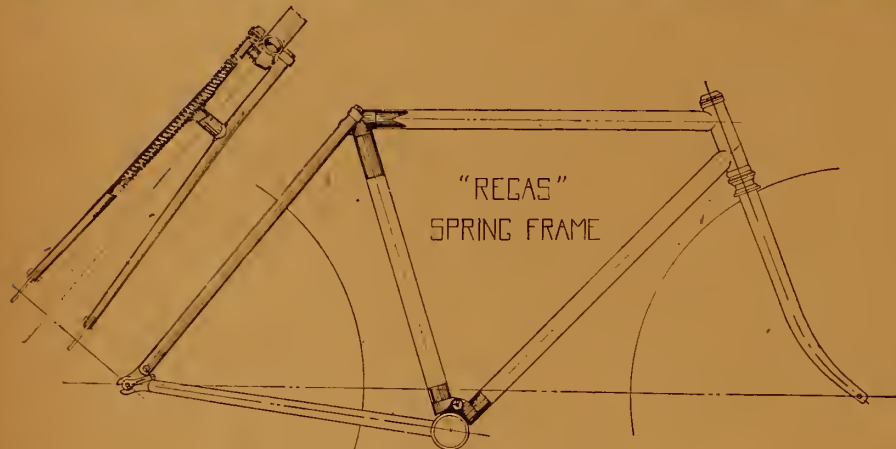
No crown construction in rear.

No limitations in spring action. "NEVER BUMPS."



Bicycle with Regas Spring Frame.

MR. DEALER! WOULD YOU LIKE A REVIVAL IN THE WHEEL BUSINESS?



Mechanical Details of Regas Spring Frame.

You can bring it about by simply showing bicycles with "Regas" Spring Frames.

THEY SELL THEMSELVES.

Nothing nearly as good at any price.

THE FIRST TRIAL IS CONVINCING.

List at \$35.00 and upwards,
according to grade and equipment.

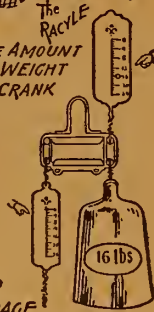
Write us for list of "up-to-date" bicycle manufacturers who build bicycles with "Regas" Spring Frames.

"REGAS" VEHICLE CO., Rochester, N.Y.

Sole manufacturers of "Regas" Spring Frame Fittings.


FEATURES OF THE SELF OILING RACYLE.

THE RACYLE
SAME AMOUNT
NO WEIGHT
ON CRANK




NO
LEVERAGE

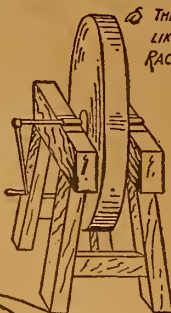
ALL
BICYCLES



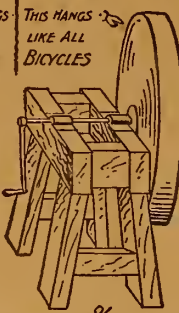
22 POUNDS
PRESSURE




RACYLE PACE MAKER MODAL 70
SELF OILING PEDALS



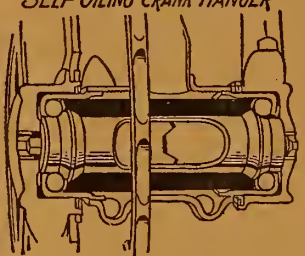
THIS HANGS
LIKE A
RACYLE



THIS HANGS
LIKE ALL
BICYCLES



5 1/2 lbs
LEVERAGE



SELF OILING CRANK HANGER

RACYCLES SAVE 27% STRENGTH
FOR SALE BY

If you want your name in the mortise, Mr. Dealer, write to

THE MIAMI CYCLE & MFG. CO., Middletown, Ohio



In every place, in whatever direction—

wherever there are men able and willing to appreciate all that is true in tires, there Kokomo tires will be found in ever-increasing numbers.

What's the state of affairs in your neighborhood?

KOKOMO RUBBER COMPANY, KOKOMO, IND.

The man who would rise in this world cannot afford to wait for air ships.

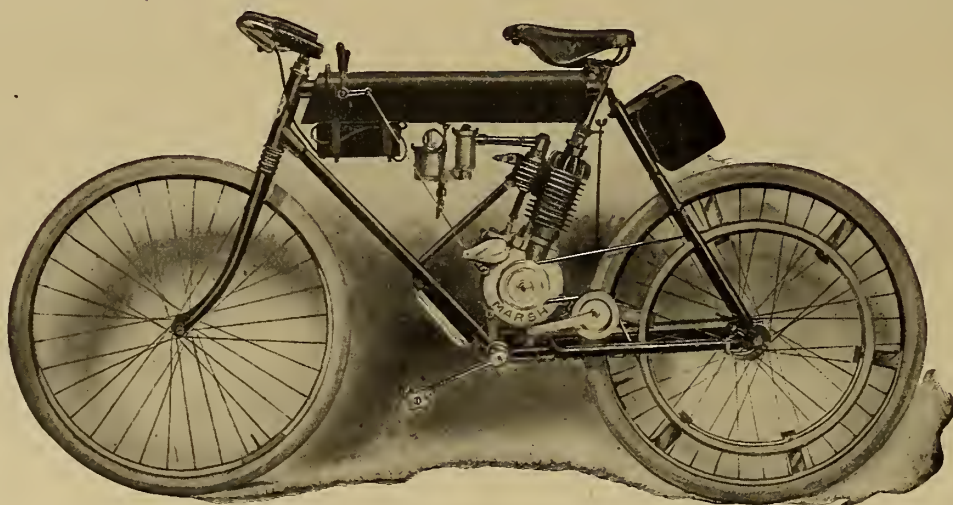
The dealer who expects the bicycle business will better itself solely because he hopes it will, will not have much figuring to do at the end of the season.

The dealer who realizes that it is up to him to actually do something and who does it is the one whose trade will increase.

That sort of dealer either has the Marsh Agency already or is dickering for it.

He realizes that it enables him to do something and to do it intelligently and well. He has an up-to-date bicycle, not merely a copy of a discarded model and he will not have to dodge purchasers' questions.

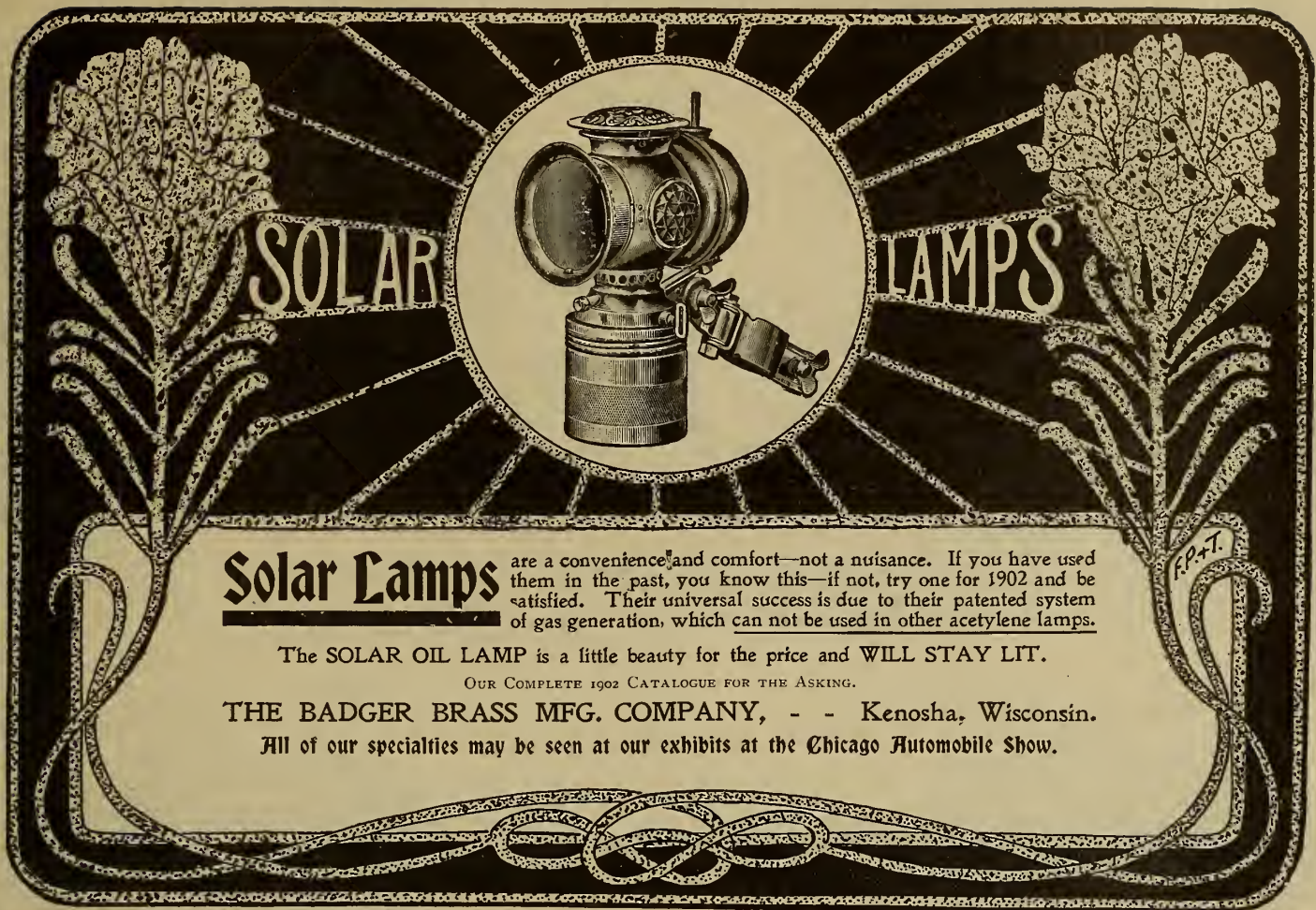
Our bicycle, our price and our guarantee place him on Easy Street. There is nothing doubtful about any of them.



MARSH MOTOR BICYCLE.

Note the position of the motor; it is correct. And the motor itself is correctly proportioned. It has more main shaft bearing surface per square inch of piston area than any other cycle motor in existence. That was one of the points we took into consideration when we framed our satisfaction-or-money-refunded guarantee.

MOTOR CYCLE MFG., CO., Brockton, Mass.



SOLAR LAMPS

Solar Lamps are a convenience and comfort—not a nuisance. If you have used them in the past, you know this—if not, try one for 1902 and be satisfied. Their universal success is due to their patented system of gas generation, which can not be used in other acetylene lamps.

The SOLAR OIL LAMP is a little beauty for the price and WILL STAY LIT.

OUR COMPLETE 1902 CATALOGUE FOR THE ASKING.

THE BADGER BRASS MFG. COMPANY, - - Kenosha, Wisconsin.

All of our specialties may be seen at our exhibits at the Chicago Automobile Show.

KELLY ADJUSTABLE BARS

FOR SIX YEARS THE STANDARD OF THE WORLD.

...Afford...

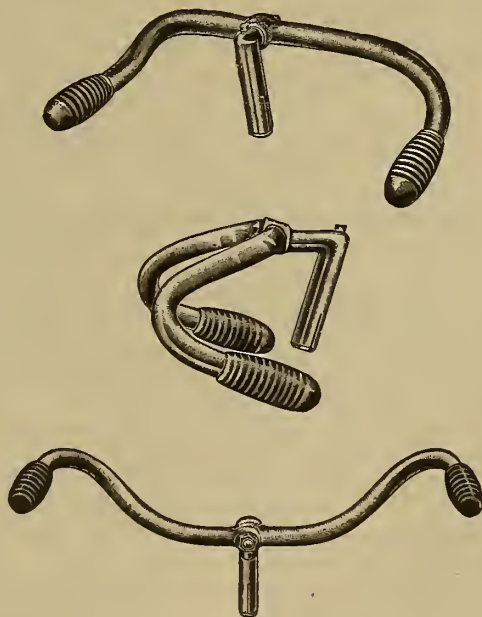
23

Changes of position.



Only steel forgings and seamless steel tubing are used in Kelly bars.

Castings and brazed tubing do not fit the Kelly reputation.



Nearly

2,000,000

in use, and every day is adding to the number and increasing the comfort of cyclists wherever bicycles are used.



Specify the Kelly and thus assure the satisfaction of your customers.

THE KELLY HANDLE BAR COMPANY, Cleveland, Ohio.



Solely a Business Question.

Figure it out for yourself, did it ever pay you to handle an inferior article? Get the best.

THE SMITH TWO-ROLLER SPRING SEAT POST

has stood the test of time, it is the pioneer in the Spring Seat Post field and will make you new customers while retaining the old ones; sure to please.

ORDER A QUANTITY FROM YOUR JOBBER TODAY.

JOS. N. SMITH & CO., Detroit, Mich.

TRADE MARK REGISTERED.
PAT. JUNE 6-99.

COLUMBIA

AUTOMATIC GAS LAMP

FOR BICYCLES, BUGGIES AND MOTOR VEHICLES.



Positively automatic water feed, i. e. the water feed is positively controlled by the gas pressure, which is regulated by a gas-cock.

No carbide wasted. Charge can be used repeatedly until exhausted, the same as in an oil lamp.

Lights at once. Turns down or out at once.

Uses one-half the carbide necessary in a large lamp, and gives as good a headlight as the best.

Height 5½ in. Weight 18 oz. 5,000 of these lamps in use on buggies, carriages and motor vehicles in Chicago this year.

We maintain prices.

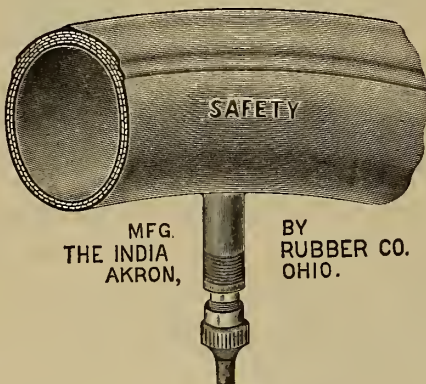
We carry the stocks ourselves, and Jobbers who purchase from us can return all surplus of unused lamps, which are marked (Model C) to us at the end of the season.

Our goods are sold on their merits alone. It is not necessary for us to offer prizes. Fine art calendar for 1902 mailed free to the trade on receipt of letter head.

HINE-WATT MFG. CO., 60 WABASH AVE., CHICAGO, ILL.

We have the largest and best assortment of tires ever offered to the bicycle world.

THE SAFETY



MFG.
THE INDIA
AKRON,

BY
RUBBER CO.
OHIO.

THESE ARE TWO OF OUR
LEADERS AND MUST
BE SEEN TO BE
APPRECIATED.

They speak for themselves
and sell themselves.

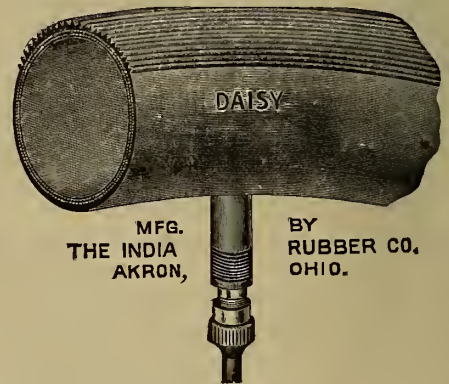
See that tread?

Its tough!

It's puncture-proof!

WRITE US FOR PRICES AND
SPECIAL INFORMATION.

THE DAISY



MFG.
THE INDIA
AKRON,

BY
RUBBER CO.
OHIO.

A big winner last season.

Leading the procession
this season!

THE INDIA RUBBER COMPANY, Akron, Ohio.

INDIAN
CYCLES \$25.00

ONE INCH TUBING.

New Indian Hanger.

SEND FOR CATALOGUE.

HENDEE MFG. COMPANY, Springfield, Mass.

The H. A. Matthews Mfg. Co.

MANUFACTURERS OF

BICYCLE FITTINGS

of all description and of the finest quality,

SEYMOUR, CONN., U. S. A.

\$25.00 REWARD

For information about dealers using or handling infringing tire fluids. **WRITE FOR CONDITIONS.**

NEVERLEAK and **CLINES LIQUID RUBBER** are the only fluids that can be legally used in pneumatic tires.

LAWSUIT NOTICE!

We respectfully advise our friends and the trade that we have commenced suit in the United States Court against the Fixem Mfg. Co. of Pawtucket, R. I. for infringement of our Neverleak patent rights and that same is now pending.

Suits against other infringers, wherever discovered, will be promptly instituted.

We believe the trade in general is in favor of fair play and we take this opportunity of guaranteeing to prosecute anyone violating our rights by making, using, selling or offering for sale any fluid or compound not made by us.

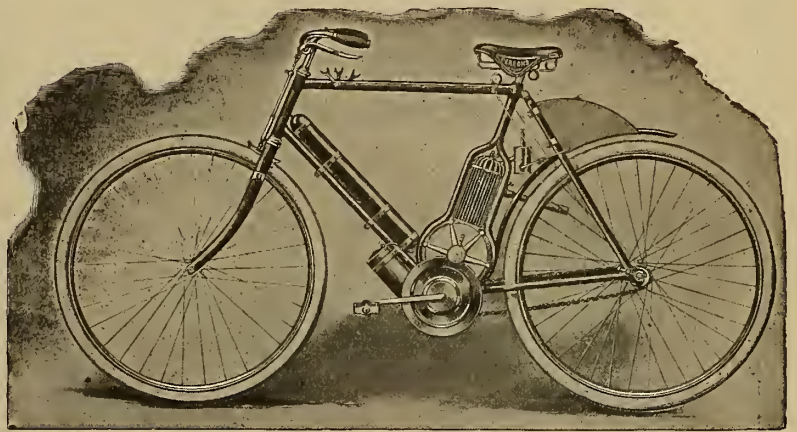
BUFFALO SPECIALTY MFG. CO., Buffalo, N. Y.
Owners of NEVERLEAK Patents.

THOUGH MANY HAVE TRIED

(AND ARE TRYING)

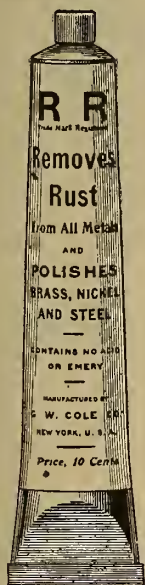
NONE HAVE SUCCEEDED IN EQUALLING

THE ROYAL



It still remains the simplest, the most attractive, the most practical and the most satisfactory motor bicycle to be found anywhere. The reasons are not far to seek.

ROYAL MOTOR WORKS, CHICOPEE FALLS, MASSACHUSETTS.



This is the only rust remover on the market. Contains no acid, no emery, and takes off the rust without a single scratch.

SEE THE BRUSH



REDUCED CUT.

Graphite and "3 in 1" oil, put up in handy shape for lubricating axles, gears and bearings, also chains and cogs. Will not soil the hands.

BICYCLE SUNDRIES.

We handle a complete line of Bicycle Sundries. Write for large illustrated 1902 Catalogue No. 10. A postal will bring it in a hurry.

All jobbers sell our goods and will quote you lowest prices.

G. W. COLE CO., 145 Broadway, New York City.

Makers of the famous lubricant *3 in One*

C. B. BARKER & CO., Ltd.

93 Reade St., New York City.

EVERYTHING IN THE

Bicycle and Automobile

SUNDRY LINE.

Novelties Tools Specialties

Standard Goods at Standard Prices.

SEND FOR OUR CATALOGUE BEFORE PURCHASING.

SPECIALTIES:

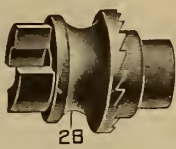
NATIONAL CEMENTS.
COLUMBIA MORGAN BARS.
CRAWFORD BICYCLES.
BARKER BICYCLES
PIONEER TIRES.
FRENCH HORNS.
COASTER BRAKES.
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FAIRBANKS WOOD RIMS.
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TIRES.
OILS.
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PUMPS.
WRENCHES.
ETC., ETC.

C. B. BARKER & COMPANY, LTD.

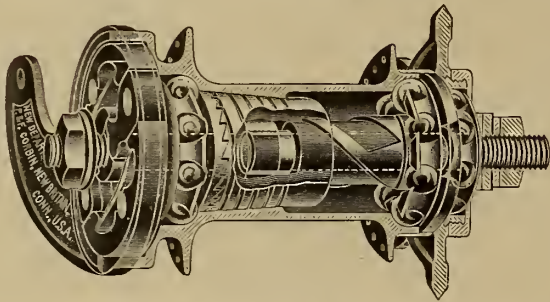
93 READE ST., NEW YORK CITY.

CORBIN'S DUPLEX 1902 MODEL New Departure Coaster Brake



OUR NEW DUPLEX BRAKING CLUTCH.

Its action is immediate and positive!
IT NEVER SLIPS.



SHOWING MECHANICAL CONSTRUCTION.

This is what you have been looking for.

FITS ANY WHEEL.

The only suitable coaster brake for motor cycles and chainless wheels on the market.

SEND FOR CATALOGUE AND SHOW CARD.

P. & F. CORBIN, New Britain, Conn.

P. & F. CORBIN OF NEW YORK,
11-13-15 Murray Street.

PHILADELPHIA,

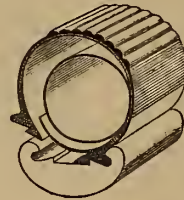
925 Market Street

CHICAGO,

104-106 Lake Street.

G&J TIRES

**Detachable—Double Tube
Corrugated**



Always give satisfactory service.
The best equipment for high grade
wheels.

G&J TIRE CO.

INDIANAPOLIS

13,300 PAIRS Bicycle Tires

WE BOUGHT THE ENTIRE STOCK OF BICYCLE
TIRES OF THE

NEW BRUNSWICK TIRE COMPANY,

WHO HAVE RETIRED FROM BUSINESS.

You know they always made good tires—the kind that wears and gives satisfaction
We are selling these away below the market.

You know our proposition on **FISK** and **KANGAROO** tires
last year was the best ever offered, and dealers made money on them. Our **NEW
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WE ALSO BOUGHT THE ENTIRE STOCK OF
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of the

**International Automobile & Vehicle
Tire Company,**

which we will sell to close quick at YOUR price.

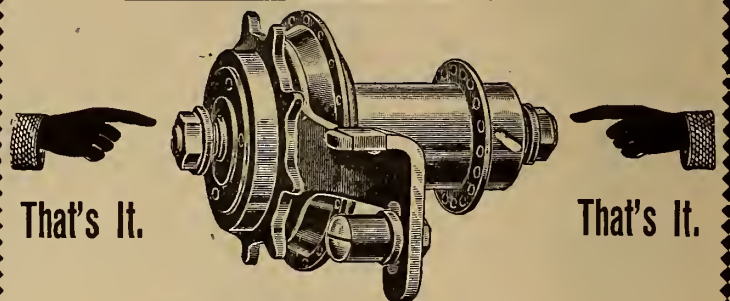
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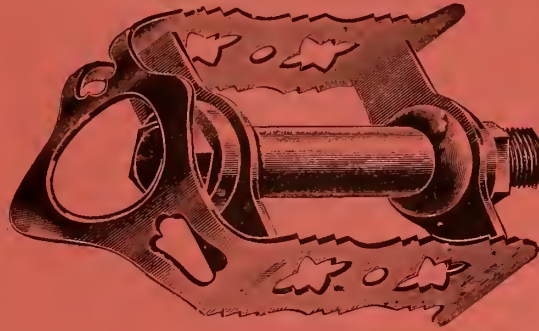


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of the investigation of every thoughtful man
INTENT ON THE PURCHASE OF COASTER BRAKES.

PARTICULARS AND PRICES ON REQUEST.

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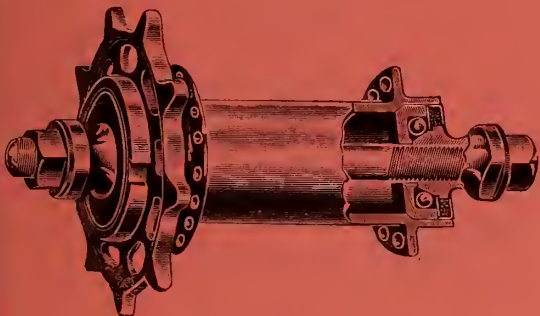
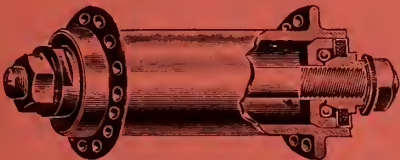
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SPECIAL DIES AND
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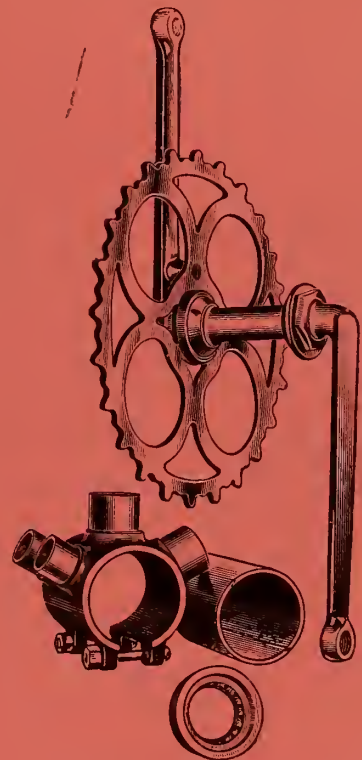
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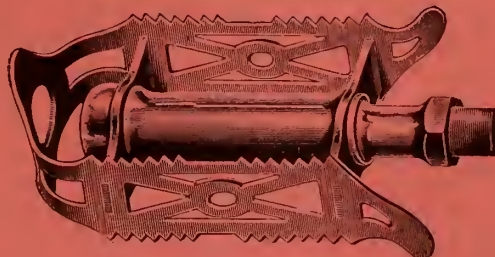
AS YOU WANT THEM.



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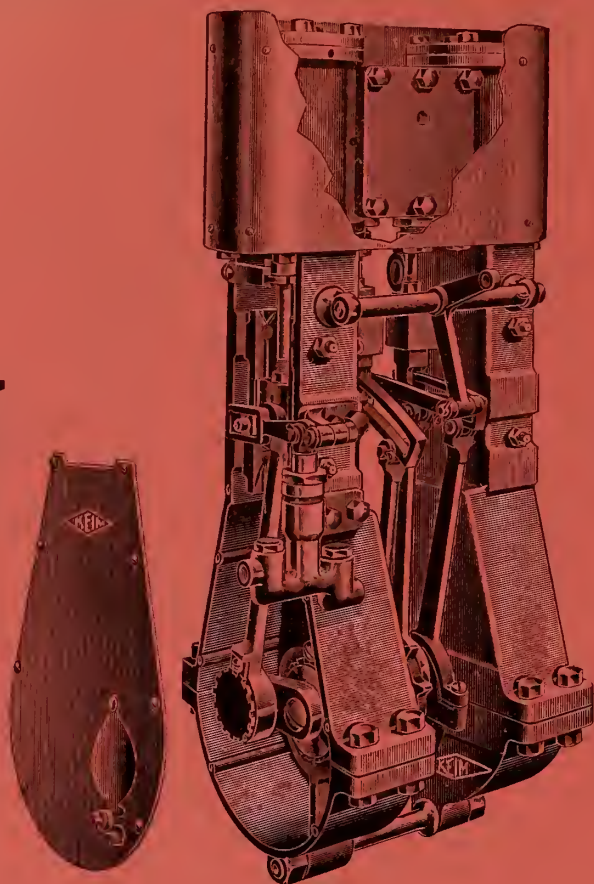


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JOHN

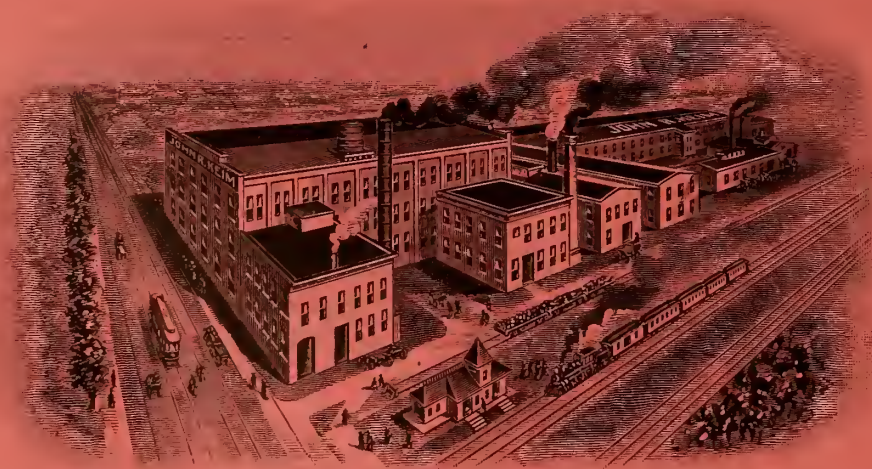


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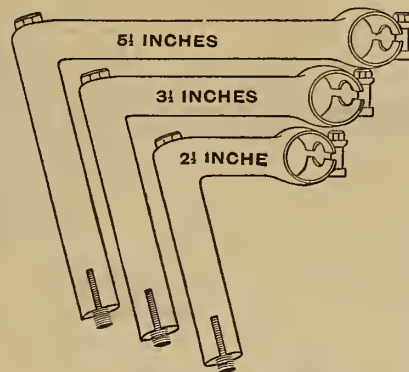
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ARE BETTER THAN EVER,**

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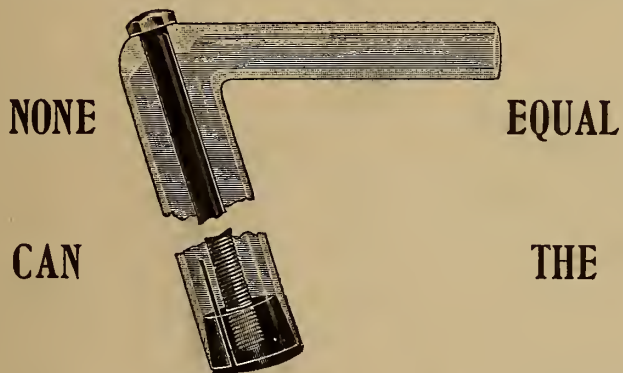
We make extensions out of forged steel
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inches and 5 1/2 inches.

We also make bars for Motor Cycles,
with re-enforcement so they will stand, with
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Write for prices to the

IDEAL PLATING COMPANY,
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5 years of continued success
tell the story.

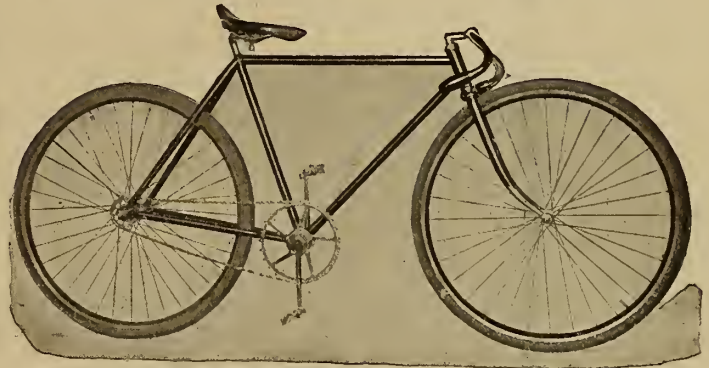
500,000 SHIPPED AND ALL USERS HAPPY.

THE STANDARD WELDING COMPANY,
CLEVELAND, OHIO.

Not what we say, but what we do

MAKES THE QUALITY OF THE

Century Special Racer



HERE'S WHAT WE PUT INTO IT.

Flush Joints...Seamless Tubing...Fauber Perfection Hanger...Thor Hubs...
Tucker Hard Maple Rims...Diamond E Spokes...Kelly Extension Handle Bar...
Troxel Racing Saddle...Star Racing Saddle...Palmer Tires.

If you know anything about cycle material, you know that those speci-
fications constitute the best the market affords.

OUR CATALOG AND QUOTATIONS ARE AS CAPTIVATING
AS THE BICYCLE ITSELF.

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Schrader Universal Valve.

(Trade Mark, registered April 30, 1895.)

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Manufacturers of Bicycles, Jobbers and
Dealers :

In order to facilitate the
obtaining of

**PARTS of the
Schrader Universal Valve,**

I have concluded to sell
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trade.

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parts sent on application.



SIMPLE AND ABSOLUTELY AIR-TIGHT

Manufactured by

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ESTABLISHED 1844.

**30 and 32 Rose St.,
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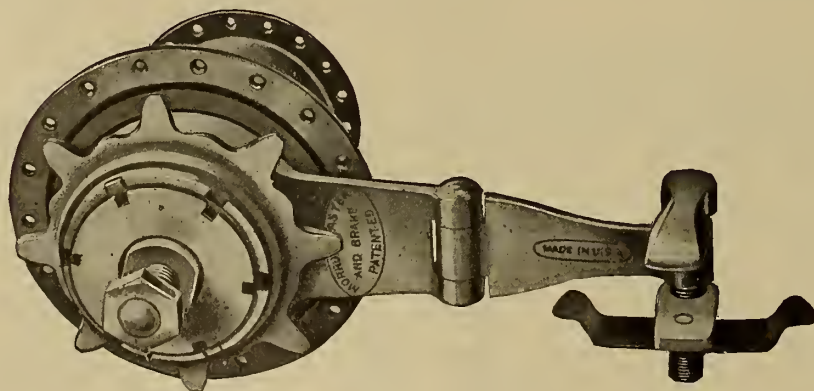


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to sell one of the many
“just-as-goods.”

THE PUBLIC
knows the Morrow and Trusts it.

It is further proof that “a good
name is more valuable than rubies.”



ECLIPSE MFG. CO., Elmira, N. Y.

The Bicycling World

AND MOTOCYCLE REVIEW.

In which is incorporated "The Wheel and Cycling Trade Review" and the "American Cyclist."

Volume XLIV.

New York, U. S. A., Thursday, March 6, 1902.

No. 23

HERE'S THE N.Y.S.A.O.B.O.J.S.

It Came Into Being at Utica and Promises a Career of Usefulness.

If its life is as long as its name, the jobbers' organization which came into being in Utica on Wednesday of last week has an extended career before it. Witness the name: New York State Association of Jobbers of Bicycle Supplies.

These are its officers: President, H. L. Hall, of the E. H. Hall Co., Rochester; vice-president, A. E. Brian, of P. A. Frasse & Co., New York; secretary and treasurer, William Spalding, of Spalding & Co., Syracuse. Executive committee, the foregoing officers and Harris Parker, of C. B. Barker & Co., New York, and C. L. Kelsey, of the Kelsey Co., Buffalo.

The meeting was really full of interest and the groundwork for much useful work was laid, every one present, apparently being of one mind that organization would result in the correction of not a few existing abuses.

Among other things, the meeting undertook the definition of a jobber. The several mooted points as to whether the issuance of a catalogue or the maintenance of a staff of travelling salesmen, or whether of the total business done 75 or 80 per cent should be wholesale trade, constituted a jobber, were also discussed earnestly and at length. But all were brushed aside, and ultimately a jobber was defined as "one whose principal business is wholesaling." Of those who come under this head it is estimated that some thirty exist in New York State, all of whom will be invited to become members of the new association.

Of the number twelve were represented at the Utica meeting, as follows: Sidney B. Robey & Co., Rochester; E. H. Hall Co., Rochester; Albany Iron and Hardware Co., Albany; Utica Cycle Co., Utica; Clarke, Horrocks & Co., Utica; C. H. Childs & Co., Utica; J. A. Rickard & Co., Schenectady; C. B. Barker & Co., New York; P. A. Frasse & Co., New York; Elmira Arms Co., Elmira; H. R. Olmstead & Co., Syracuse, and Kelsey Co., Buffalo.

Letters of regret, which also conveyed assurances of co-operation, were received from

the Willis Park Row Cycle Co., J. H. Lengs Sons Co., Wilson Co., New York Sporting Goods Co., American Cycle Mfg. Co. and Charles E. Miller, all of New York, and Joseph Straus & Co., of Buffalo.

Communications from a number of manufacturers were also in evidence as indorsing the movement and promising support.

The management of affairs will rest largely with the executive committee which will draft the constitution and bylaws and shape other projects that are in mind. Among these is the institution of an exchange of credit information.

Harris Parker returned from Utica reflecting the enthusiasm and good feeling the meeting had created.

"As few preparations had been made and scant notice been given," he said, "I think most of them went to Utica, believing that we would find no one else there, and that a frost would result. Instead we really had a splendid meeting. All present were interested and deeply in earnest, and went away with the conviction that much good would follow the organization."

Takes Wrench to Buffalo.

The well known Springfield wrenches, and all that pertains thereto, are now the property of the Union Specialty Mfg. Co., of Buffalo, N. Y., that company having purchased the wrench end of the Springfield (Mass.) Drop Forge Co.'s business. Incidentally, the Union Co., in which W. H. Crosby, of the Crosby Co., is the leading figure, has increased its capital to \$40,000.

Quaker Jobbers to Organize.

Following the example of New York and New England, the Pennsylvania jobbing trade is now discussing organization. The matter is fairly well advanced, and the idea is being so well received that an association of some sort is almost certain to result.

Morrow Depot in New York.

The Eclipse Mfg. Co. is about to establish a Morrow supply depot in this city. H. E. Walker, of the company, is in town seeking a location.

Increased Their Capital.

The MacDonald, Wessel and Ames Co., of Detroit, Mich., has increased its capital stock to \$25,000; it was formerly \$10,000.

AMERICAN MAKERS HARD HIT

Canadian Failure With all Creditors This Side of Border—What Caused it.

Quite the heaviest failure that has occurred in some little time came about in Toronto late last week, when N. C. Sparks, its president, applied for the appointment of a receiver for the American Tire Co., of that city. The court granted the prayer, and named E. C. R. Clarkson, of Toronto, for the position.

The nominal assets are placed at \$81,000 and the liabilities at \$100,000. The creditors are nearly all American houses, and the American Tire Co., whose manager, H. P. Davies, was better known than its president, handled a volume and diversity of goods made on this side of the border. Hartford tires, G. & J. tires, New Departure coaster brakes and bells were the chief lines, although a large business was done in stripped bicycles, most of which, it is stated, were supplied by William Hengerer & Co., of Buffalo, who are accounted one of the heaviest losers.

The failure is attributed directly to the miserable report made by the Canadian trust, the Canada Cycle and Motor Co. The facts, or alleged facts, and figures presented by that remarkable document made every one shy of Canadian credits, and the resulting pressure of creditors on one side and the reluctance of the Canadian banks to give accommodation on "bicycle paper" on the other squeezed the American Tire Co. to the wall.

Despite the fact, Manager Davies has not entirely lost hope that some arrangement may be effected whereby the company will continue.

Daniels Sells Out.

W. Smalley Daniels, of Jarvis & Daniels, Grand Rapids, Mich., has disposed of his interest in that firm, and will embark in the automobile business. A stock company, with \$25,000 capital, is forming to take over the Jarvis & Daniels business.

Tubing Quotations Withdrawn.

The Shelby Steel Tube Co. has withdrawn all its quotations on cycle tubing. What the action portends is variously imagined.

JANUARY'S JOY

Export Statistics for the Month Show Substantial Increases in all Directions.

In the matter of cycle exports the year 1902 started with a rush and a vigor calculated to warm the cockles of the American heart.

January's record, just announced, was a record breaker in its way. Not only was the total almost a 100 per cent increase over the correspondong month of the previous year, but the gains were quite general, and as large as they were general. England's purchases increased more than 100 per cent, France and Germany's nearly 300 per cent each, while the other countries of Europe also bettered their records. In the Far East, Japan, the East Indies and Australia "looked up" substantially, while Africa held its own.

The losses were all small ones, and were scattered mainly throughout Latin America, and even in this direction Argentina also improved on its record of January of last year.

With January the government statistics revert to the fiscal year which ends with June. For the seven months of this period the record is also inspiring, the total being some \$168,000 over last year's.

The statistics follow:

	January.		Seven months ending January		
	1901.	1902.	1900.	1901.	1902.
Exported to—	Values.	Values.	Values.	Values.	Values.
United Kingdom.....	15,645	32,257	173,155	135,717	217,364
France	13,144	37,474	129,096	36,711	107,919
Germany	17,751	40,394	216,639	69,588	120,799
Other Europe.....	50,111	59,623	353,154	181,577	212,660
British North America.....	11,888	11,075	97,233	68,279	55,120
Central American States and British Honduras.....	455	407	2,155	2,479	3,406
Mexico	3,511	1,145	17,596	11,378	12,289
Santo Domingo.....		54	202	239	645
Cuba	1,203	1,085	116,457	9,975	10,041
Porto Rico*.....			1,611		
Other West Indies and Bermuda...	4,092	2,802	31,757	29,185	26,222
Argentina	1,663	2,763	115,040	22,059	7,680
Brazil	765	457	19,730	7,239	2,753
Colombia	34	66	5,859	320	652
Other South America.....	2,561	1,014	44,707	19,058	14,446
Chinese Empire.....	2,009	2,562	15,446	8,962	45,513
British East Indies.....	632	3,226	74,704	30,015	28,552
Hong Kong.....	300	306	4,964	7,227	1,716
Japan	7,716	12,573	126,548	118,492	94,936
British Australasia	7,658	17,397	146,362	120,252	121,137
Hawaii*			24,582		
Philippine Islands.....	1,703	627	3,535	50,747	11,097
Other Asia and Oceania.....	1,159	1,485	30,261	15,300	14,842
Africa	9,842	9,759	44,824	68,073	71,206
Other countries.....			89	140	117
Total.....	153,842	238,551	1,795,706	1,012,970	1,181,112

*No longer included in statistics.

Memphis Looks for a Revival.

The reorganization of its park system and the construction of many miles of new drive-ways is apparently making for a great renewal of cycling interest in Memphis, Tenn. The daily papers of that city all devote liberal space to the probability of such an occurrence.

Jobbers Who Played Both Ends.

When the New England Jobbers' Association was formed its members figuratively foreswore all dealings with retail pools, doubtful agents and price cutters. They agreed to sell only to those whom they agreed were legitimately entitled to trade prices.

They had hardly taken the pledge and returned to their respective offices before still small rumors brought a tale that one of the titled officers of the association was surreptitiously selling to a house that had given the jobbers particular offence. He was promptly called to task, and as promptly swore by the beard of the prophet that the impeachment was utterly false.

But the rumor would not down, and a trap was laid for the suspect. He needed no tempting, and fell into it so promptly that the entire Eastern trade is a-laugh over the situation. As a result of his duplicity several manufacturers have already refused to sell to the culprit, but what the jobbing association itself will do to him remains to be seen and is awaited with interest.

Auction Marks Olive's End.

The end of what was once the Olive Wheel Co. is in sight. The court has ordered sold the factory at Syracuse, N. Y., and Monday next, the 10th inst., has been set as the date of the auction.

According to the legal notice, the property

JAPAN'S REGULATIONS

Road Rules That Explain Why There is Small Demand for Juvenile Bicycles.

There is small demand for juvenile bicycles or dropped handlebars in Japan. Although few are aware of the fact, the Japanese law discourages their use; indeed the regulations of the Metropolitan Board of Police expressly prohibit the use of bicycles by children under twelve years of age. The rules are also drastic in other respects and are as explicit and comprehensive as they are far reaching. They follow:

Article I.—When using a bicycle on a public road the cyclist must have a bell, or some other sounding device, fixed to the vehicle, or carry it about himself, so as to be able to give warning to others.

Art. II.—While riding, the cyclist shall not remove both his hands at one and the same time from the handle.

Art. III.—When passing round a street corner, or over a bridge, or a hill, or a narrow or crowded place, the cyclist shall proceed slowly, giving warning by means of the bell or other device. At sharp inclines, however, he must alight from the bicycle.

Art. IV.—When a cyclist intends to pass pedestrians, or oxcarts, or horse carriages, he shall give previous warning to them by means of his bell.

Art. V.—When cyclists ride in a line they must leave a space of over two ken between their bicycles.

Art. VI.—When riding on a public road or near the same the cyclist shall wear hakama (trousers) or momohiki (tight drawers), or coverings of a similar nature.

Art. VII.—When passing along a road at night a cyclist shall have a light for his bicycle, no matter whether he is riding or not.

Art. VIII.—Cyclists shall not recklessly interrupt a procession of troops, of students or pupils, or of a funeral cortege.

Art. IX.—Cyclists shall not proceed abreast on a narrow road.

Art. X.—Where a road is divided into a carriage way and footpaths the cyclist may proceed along on the footpath only when they push their bicycles by hand. Even in this case the police may, if they deem it necessary, stop their progress.

Art. XI.—No training, nor races, nor performances of any kind on a bicycle shall be undertaken on the public road.

Art. XII.—While riding on the road a cyclist shall neither use a low-turned handle, nor cause it to be used.

Art. XIII.—No bicycle shall be ridden by more than the prescribed number of persons.

Art. XIV.—Children under twelve years of age shall not be allowed to ride a bicycle on the public road.

Art. XV.—The police may, if they deem it necessary, order a cyclist to dismount or stop his riding.

Art. XVI.—Offenders against these regulations are liable to detention or to a police fine.

to be disposed of consists of "tools, parts of bicycles, machinery, engine, bicycle sundries and stock used in the manufacture of bicycles, and other personal property."

The terms of sale will be 10 per cent of bid at the time the same is made and accepted, and the balance as soon as an order has been made confirming the sale.

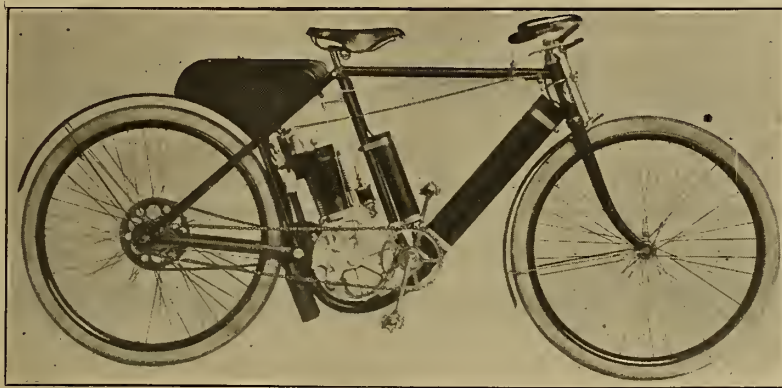
A. B. C's MOTOCYCLE

It Finally Makes its Formal Debut — Has Many Features of its own.

Of the motor bicycles that have been awaited with interest, in none has the interest been keener than that promised by the American Cycle Manufacturing Co. Perforce, the accompanying illustration of that machine will gratify no little curiosity.

The machine weighs 115 pounds, is of $2\frac{1}{4}$ horse power, and, as the *Bicycling World* stated last week, lists at \$175. Each and every part of it is made in the Columbia factory at Hartford, absolutely no part of the stock bicycle being used in its makeup.

The supply of gasoline and air in proper mixture is controlled by index levers on frame just back of bar. Complete control of the engine is obtained by means of the controlling lever without removing the hands from the grips. When the lever is depressed as far as possible the machine runs at full



speed. Raising it to a point near the bar shuts off the power and applies a direct acting brake to the front tire. The rate of speed is governed by placing the lever in intermediate positions according to the pace desired. An electric switch on the opposite bar also admits of shutting off power instantly. In starting, an automatic device causes application of power to be gradual, obviating violent initiatory motion. In taking on power after a coast, there is no violent explosion. In case the engine is disabled, it can instantly be disconnected and the machine driven by the pedals as an ordinary bicycle.

The specifications follow: Height of frame, 22 inches; wheel base, 53 inches; wheels, 28 inches; tires, $1\frac{1}{4}$ inch, single tube—rear tire extra heavy and mechanically fastened as well as cemented; spokes, 44 rear, 40 front; soft rubber grips; pedal gear, about 56 inches; motor gear, 8 to 1; free rear wheel, admitting of machine being run backwards; motor can be speeded to about 2,600 revolutions per minute; all parts specially heavy throughout; fitted with saddle, bag and tools complete.

The bicycle will be marketed under the Columbia, Cleveland, Crescent, Imperial,

Monarch, Rambler and Tribune nameplates. It is covered by the regular sixty days' guarantee against defects of material and workmanship that applies to all of the company's productions.

What Inspired the Pneumatic Tire.

Despite his long and prominent identification with the cycle trade, until last month J. B. Dunlop, the inventor of the pneumatic tire, had never spoken at a cycle gathering. The occasion of his "breaking the ice" was the Glasgow cycle show, which he opened by a speech dealing more with motors than with cycles or tires.

Somehow, he said, he never thinks of himself as the inventor of the pneumatic tire, but goes on to think of something else. He had often been asked what made him think of it in the first instance. Lord Wolseley had been one of the curious, and he answered him as he did now, probably it was his son's football. He thought how nice it would be if his tricycle wheels could be cushioned with something akin to a football.

But a curious conversation he had when a

boy with a lady had also something to do with the matter. She pointed out how important the number "three" was. There were three elements in life—earth, air and water, and, working that out, we arrived at such subdivision as animal, vegetable and mineral, solid, liquid and gaseous, and so on. He had never forgotten that idea, and had applied it to many facts. Even in the pneumatic tire there were three elements—the tube which contained the air, the fabric which prevented the tube unduly expanding, and the outer covering of rubber which protected the fabric.

Foot Pump Causes Odd Accident.

This story of an unusual accident comes from Atlanta, Ga., and is said to have happened to one of the racing men now sojourning there: While inflating a tire with a small foot pump the wood handle broke or became detached; the plunger being at its down stroke at the time, the back pressure drove the rod completely through the man's hand, giving him an ugly wound.

"Motorcycles and How to Manage Them"; 126 pages, 41 illustrations; cloth bound, \$1. The Goodman Co., Box 649, New York ***

MOTOCYCLES AT CHICAGO

Few of Them in Evidence at Automobile Show—Kerosene Motor Promised.

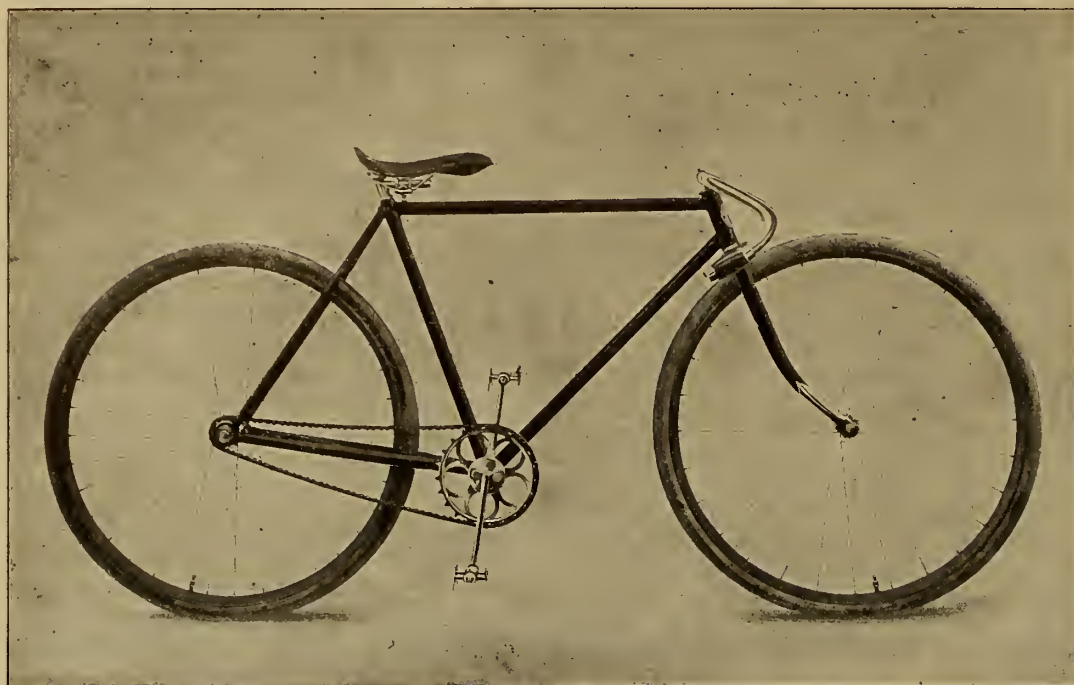
Chicago, March 2.—But three makers of motor bicycles deemed it necessary or desirable to exhibit their wares at the Chicago "Automobile Exhibition," as the show which opened at the Coliseum on Saturday, March 1, is officially termed. One of these, even, shows automobiles also, so that it will be seen that the show is one of automobiles in fact as well as in name.

The three concerns referred to are the Buffalo Automobile and Auto Bi Co., of Buffalo; the Wisconsin Wheel Works, Racine Junction, Wis., and the Merkel Mfg. Co., Milwaukee, Wis. The showing smacks of the West, of course, and this is only natural.

Of startling features or changes on the machines there is a dearth. The Mitchell and the Merkel have undergone little overhauling. The Auto-Bi line has been increased by two entirely new models, and, although they have already been described and illustrated, this show offers the first opportunity for examination.

The Mitchell exhibit consists of two machines. The motor is still attached to the main frame tube, and the disposition of the gasoline tanks, induction coils, etc., is that rendered familiar. A marked departure in the shape of an entirely new belt is made, however. At first glance it resembles an ordinary Manila rope, but a closer examination reveals the fact that it is made of rawhide. Three strands, each in turn made up of three smaller strands, are used in the composition of the rope, making a round section. This runs on a pulley the groove of which is nearly square. The belt, which is made six feet too short, and then stretched until it is long enough, is said to be proof against further elongation, even under the most severe drawing strain. The only other change is found in the sparking advance lever, which is now placed just back of the head of the machine, instead of near the motor.

In the two new Auto-Bies, which differ only in that one is belt driven and the other chain driven, a number of ingenious devices have been incorporated. Chief among these is the single grip control, the right hand grip being used for this purpose. By twisting it the exhaust valve is opened and the sparking advance is retarded, the operations being simultaneous. The machine can then be pedaled without difficulty. A twist of the grip in the other direction closes the exhaust valve and advances the sparking. The lubricating oil is contained in the top frame tube, and a small pump is fastened to the lower side of this tube, one stroke of which draws a certain amount of oil from the tube and permits it to pass to the motor cylinder, etc. By loosening a single screw the inside of the muffler can be taken out for the purpose of cleaning.



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National
LIKE THIS

THAT FENN RODE
WHEN HE MADE THE
5 MILE WORLD'S UN-
PACED COMPETITION
RECORD, 10-33 2-5. ::



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FOR 1902.

National Cycle Mfg. Co.
BAY CITY, MICH.

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A GREAT DEAL IF IT IS

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54 State St.

SAN FRANCISCO,
114 Second St.

THE BICYCLING WORLD

FOUNDED 1877
and MOTORCYCLE REVIEW

In which is Incorporated
the "Racing Wheel" and the "American Cyclist."

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Members of the trade are invited and are at all times welcome to make our office their headquarters while in New York; our facilities and information will be at their command.

To Facilitate Matters Our Patrons Should

Address us at P. O. Box 649.

NEW YORK, MARCH 6, 1902.

The Joy of January.

That the year made a good beginning the export statistics printed in another column attest.

Of course the figures represent but the first month of twelve, but the story of renewed energy and quickened demand that they convey cannot but inspire a feeling of confidence and good cheer, particularly as the weekly reports of exports during February proved that the volume of demand closely approached that of January.

It is not alone that the total for the month is an increase of more than 75 per cent. over January of 1901, but the gains in England, and particularly in France and Germany were so enormous, comparatively speaking, to say nothing of "other Europe," Australia and Japan, that the record of the month almost savors of the remarkable.

It seems to argue that the foreign trade has pretty well rid itself of the glut of overstocks, and has about recovered its tone and normal health.

Surface indications point to a similar state

of affairs in this country. Everything seems to portend the best foreign and domestic trade in three years. Before the close of April we shall know whether the signs were false or true.

Meanwhile it is well to make the most of the brightness that prevails. The export figures are before us, and are commended to the attention of the gentlemen with wry faces who, viewing the trade in the light of yesteryear, can find no health in it.

Stopping Small Leaks.

The maker of a well known condiment, the persistent advertising of which made him one of the notably rich, once remarked, "My money is not made so much out of what the people eat of my goods as what they leave on their plates." Recognizing the general truism of this and its many ramifications, he applied it as an axiom throughout his business. Savings were instituted, each by itself being small, but the aggregate worked on the old basis of pennies make the dollar. The total from these accumulative savings was applied to the advertising account to considerably swell it.

If the small dealer and repair man will look over his business he will be surprised, if the investigation is complete, at the many little points offered for savings, each trifling in itself.

Take in the item of brazing alone. Most repair men will at first take exception to the statement that they are extravagant in the use of flux and spelter. Yet we know that such is the case, and, without skimping the job, a distinct saving can be made in a year's time by a good workman.

The matter of files will also stand deeper investigation, both in the manner of using and the length of time they are kept at work. To get all that is possible out of a file at the least expenditure of time and effort is worthy of as much study and ability as an engraver gives to his tool. The greatest value can be had when the file is handled correctly. Not only will each movement do more work, but the life of the file will be materially increased. When this art is fully mastered there will come with it the understanding that there is a time beyond which the use of the file is extravagant, as it is too dull to do the work.

From the folly of using a dull file it is a natural transition to recognize the equal folly of using or keeping about the shop any tool that is dull. To make the error of using a dull file because otherwise it will have to

be replaced at the cost of a new one is equally bad as it would be to go on using a dull lathe tool because it takes time to sharpen it. Five minutes at the tool grinder will save an hour at the lathe or other machine tool.

If the dealer and repair man will watch these and other items that with a little thought present themselves in the daily work, he will find that the weekly saving will be a material aid to increase the amount of money that he can invest in printer's ink.

Give us a Rest!

There are two classes of papers—those which know no better than they print, and those which ought to know what they talk about.

When a publication with such pretensions as The New York Commercial, which sets up itself as "the business daily," undertakes to write up or write down an industry the average business man has a right to expect at least a display of common sense. The Commercial, however, apparently has its eye glued on the stock ticker and judges everything from that standpoint. It recently devoted some attention to the cycle trade, and because the common stock of one over-capitalized company is quoted at next to nothing The Commercial sees "signs that the turning out of motor vehicles may rescue the industry from complete collapse."

It is from such silly prattle from men who are popularly credited with being the possessors of brains that the cycle trade has suffered most; there is some excuse for the man in the woods or one who does not pose as an industrial expert; there is none for the latter. It is his business to know what he is writing about and to think before he writes.

It is his business to know the difference between "booms" and normal and healthful growths of trade and of all that follow in their train. It is his business to know the difference between playthings and articles of real utility. It is his business to know the difference between "complete collapses" and settling down processes, and it is his business to build up and not join in tearing down legitimate industries by giving printed expression to idle thoughts or empty vaporings that affect stock tickers or are prattled by the populace.

Despite what The Commercial says, i. e., that the world was agreed that the demand of the boom period was to be the proportions of the permanent demand for bicycles,

we question whether the men who think were included in the agreement. The boom was popularly and properly referred to as a "craze," and any one with a thimbleful of sense knows that "crazes" are not lasting, exactly as they know that booms are like balloons—as surely as they go up they come down.

The "bicycle craze" or boom was no exception to the rule. Men with idle capital or idle factories, and others who had only colossal "brass," rushed into the business when it was at its height, and either rushed out or fell out of it when it declined, exactly as they rush and have rushed to and then from the gold fields, or oil fields, when a boom is on and then off again.

The manufacture of bicycles was a gold field in its day. Its discovery led to a mad rush of any and all kinds of people. When they came to their senses the business began to settle down, until now it is about settled to normal proportions and is gradually recovering its health.

When an oil boom, a gold craze or anything else of the sort excites the populace, and the supply and demand subsides to a reasonable level, we do not hear of the collapse of the oil trade or the gold trade or any other trade. Rather we hear and read interesting stories of "foolish prospectors," "rash investors," etc., without end.

The cycling industry had its full share of those classes of prospectors and investors; it is now almost free of them and is reaching the dimensions of a respectable trade, free from fever, fizz and fireworks. The bicycle so plainly has a place in the social economy of the world—its utility to man is so great and so manifest that its complete collapse is utterly impossible.

In the name of all that is holy, in the name of all that is decent, we beg The Commercials and papers generally—we plead with the men who talk without thinking—we urge the men who write without thinking to view and to talk, think and write about the bicycle business as it is, not as it was; to dissassociate it from "booms" and "crazes," to give it the just and thoughtful treatment that is its due.

The "bicycle boom" was the most unfortunate visitation an industry ever experienced. We all know it now. We are getting over it bravely and well.

Simply cease comparing the past with the present; let us all live in the present, and the future is beyond doubt or doubting.

That "comparisons are odious" is well known. They were never more odious than

in the case of the bicycle. It has suffered enough as it is. In heaven's name, give us a rest.

Chainless Merits More Attention.

The few-and-far-betweenness of chainless bicycles in Australia, to which our Melbourne correspondent last week called attention, recalls how that bicycle has been permitted to descend to a sold-when-called-for level, even in this country.

There was a time, and only a little over a year ago at that, when in point of interest and remark it was on a par with the coaster brake and cushion frame; of recent months, however, the latter have simply run away from the chainless, so to speak.

Whether its relatively high price is the responsible cause, as one dealer tells us is the case, or whether it has become what we term a "stock bicycle" is hard to determine.

The fact remains that the chainless is not receiving the attention that is its due or being pushed either here or abroad with the energy that the bicycle deserves.

It is a magnificent mount. We speak from a full three years' experience.

Our esteemed contemporary, The India Rubber World, of whom we expected better, is indulging in the pastime of drawing comparisons between the boom times of the bicycle and the present, and showing the effect on the tire trade. To make matters worse, our contemporary has got hold of some juggled export statistics which lead it to point out that Japan was the only country in which we improved our foreign business during 1901. Unfortunately, we did nothing of the sort, but we did make substantial gains in England, France, Africa, China and several other countries. If it were the fashion to point out the bright spots in the cycle trade, and not the dark ones, this would scarce escape notice. And if The India Rubber World and other journals are looking for light rather than shadows they will find plenty of it in the export statistics for January published on another page.

While some of them appear mightily like a blow at what Americans term "personal liberty," the Japanese regulations governing the use of bicycles are yet likely to serve the best interests of the bicycle, and might have done so in this country had they been in force. The prohibition of low dropped handlebars, of track riding in public, of carrying

babies on bicycles is wise and well calculated to prevent the disgust that such things caused on this side of the Pacific.

To dealers who incline to sighs and wistful thoughts and expressions of "the days that were" we commend heartily the Minneapolis paper's interview with Frederick Roach, which is reproduced in another column. If more dealers would think and talk in the same strain they would do themselves and the business generally more good in two minutes than they will in two centuries by talking of "how things used to be."

When a bicycle comes in for overhauling at this season of the year it should be remembered there is a difference between overcharging and undercharging that is hard to immediately settle. Between losing a customer from one cause and a profit from the other, the prospect is not always a happy one.

The fewness of motor bicycles at the Chicago automobile show simply is evidence that the cycle trade has come into its own. The motor bicycle is, and always was, merely a development of the bicycle, not of the automobile.

When the motorcycle gets fairly abroad in the land we shall begin to read of the ingenious backwoods youth who has made a machine out of an old sawhorse and the parts of a clock, particularly the spring.

At last we have a definition of a jobber, and not a bad one, either. He is "one whose principal business is wholesaling." Thank the N. Y. S. A. O. J. O. B. S. for it!

It now transpires that there was even "a woman in the case" of the pneumatic tire. Vide the testimony of Inventor Dunlop printed in another column.

Great ideas do not come from hermits. The man who keeps to his own circle the knowledge that he makes bicycles must have a poor idea of himself.

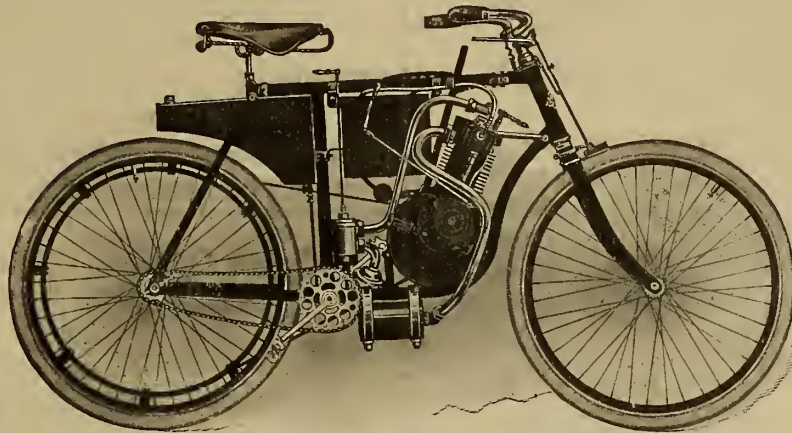
When renting bicycles it is a good point to remember that a suggestion that the machine can be sold at a reasonable figure will often bring results.

"Push cycles" is a term that gives symptoms of coming into use to distinguish the leg driven machine from the motor bicycle.

Jobbers' organizations appear to be contagious.

ORIENT BICYCLES

A
Powerful,
Practical
Road
Machine



The
Best
in
the
World

ORIENT MOTOR BICYCLE, PRICE \$250.00

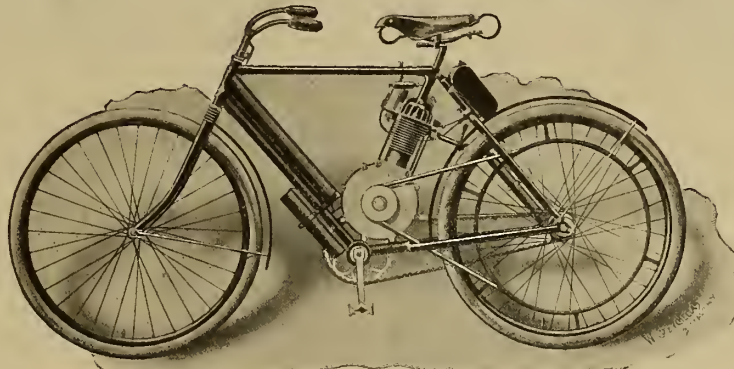
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APPLY FOR AGENCY

WALTHAM MFG. COMPANY, WALTHAM, MASS.

THE FIRST MADE—THE MOST USED—THE BEST EVER.

1902



1902

MODEL No. 4—RACER AND ROADSTER.

3 Models **AUTO=BI,**

No. 3—1½-H. P. Motor, \$150
No. 4—2½-H. P. Motor, 175
No. 5—2½-H. P. Motor, 200

LIBERAL PROPOSITION TO EXCLUSIVE AGENTS IN EACH TOWN.

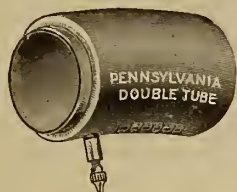
Pronounced by experts to be the embodiment of mechanical perfection. Embraces improvements not found on other makes, which is result of our large experience.

NO GUARANTEE IS STRONGER THAN OURS. IT'S GOOD.

Nearly 500 of our 1901 agents have paid us and our product the highest possible tribute by renewing their contracts for the season of 1902.

The "BUFFALO, SR.," our \$800 Automobile, will make its debut at the Chicago Automobile Show. SEE IT!
BUFFALO AUTOMOBILE & AUTO=BI CO., Buffalo, N. Y.

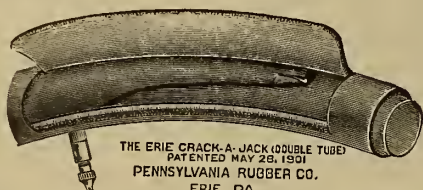
Jobbers, Be Wise!



Handle these
Goods and
MAKE MONEY.

STAY WITH THE GOLD MEDAL WINNERS.

Write for
our
1902
Price
List.



THE ERIE CRACK-A-JACK (DOUBLE TUBE)
PATENTED MAY 28, 1901
PENNSYLVANIA RUBBER CO.
ERIE, PA.

Don't close
until you
consider
our entire
line.

**PENNSYLVANIA
Rubber Company,**
ERIE, PA.

BRANCHES:

NEW YORK
BUFFALO

CHICAGO

BOSTON
PHILADELPHIA



If the Bicycle that you make, sell or ride lacked adjustability, you wouldn't think much of it.

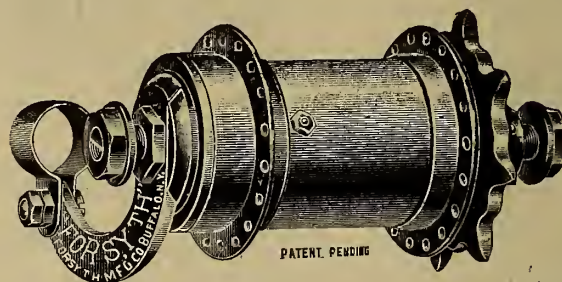
Why then should you think more of a coaster brake that lacks that vital feature?

We can account for it only on the "where ignorance is bliss" principle.

But why remain in ignorance when knowledge is so easily obtained?

We are at all times ready and willing and anxious to enlighten you and to show you a coaster brake that is adjustable—

The Forsyth.

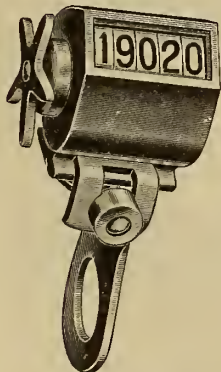


FORSYTH MFG. CO., Buffalo, N. Y.

Veeder Cyclometers

STAND ALONE.

10,000 Miles
and Repeat.



ACTUAL SIZE.

Competition has been silenced by sheer
... SUPERIORITY ...

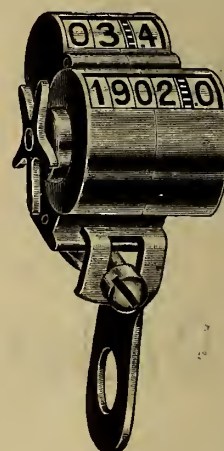
Wheelmen no longer ask for a "CYCLOMETER."

They ask for a "VEEDER."

Those two words are synonymous.

Dealers can secure them from any jobber of consequence in the United States. They are on sale in every civilized country in the world.

10,000 Miles and Repeat
and Trip.



ACTUAL SIZE.

Makers of CYCLOMETERS,
ODOMETERS,
COUNTERS,
FINE CASTINGS.

THE VEEDER MFG. CO.,

CATALOGUE FREE.

HARTFORD, CONN.

ROACH TALKS SENSE

Gives his Local Paper an Interview That Places Trade in its True Light.

"In view of the fact that some of the newspapers and part of the public have the idea that bicycles were a fad and have been given up by a large number of people, I will endeavor to give my reasons for thinking that the bicycle is being ridden by more people every day," Dealer Frederick Roach said to a local daily in an interview, the like of which is worthy of reproduction in all parts of the country.

"Very few people ever did, or do now, understand the bicycle situation.

"As far back as 1888 and 1889 there were very few ordinary or high bicycles in the city or country. That year the safety with solid tires came into use, but they were used by only a few.

"In 1890 the cushion tire came into use, but these tires were not much better than the solid tires. It was in 1892 that the first pneumatic tires were used on bicycles.

"That was just ten years ago this spring. These were satisfactory from the riding standpoint, but were very difficult to repair, were high in price and the manufacturers did not understand how to make them so that they could be easily repaired. The bicycles were heavy, weighing about sixty pounds, and the tires soon gave out under the excessive weight of the rider and wheel.

"The improvement in construction of both tires and bicycles, the starting of large factories and the making of special machinery to manufacture them all took millions of dollars to put the bicycle on the market. This experimenting, establishing agencies (that were not always profitable), and the educating of people up to the point of seeing the merits of the bicycle from a business, as well as a means of enjoying the free country air, cost the makers many millions more.

"When one comes to think that ten years ago there were practically no bicycles on the face of the earth and to-day millions are ridden daily, one has to stretch the imagination a great deal to think it has been done in the short length of only ten years.

"Horses and buggies have been on earth for centuries, but to-day there are more bicycles and bicycle riders than there are horses and buggies.

"The public seems to think that the 1902 prices will be cheaper, but if they look at the 1902 catalogues they will find that the prices are the same as they have been for the past five years, except for the chainless, and the prices on these are no different than last year for the best wheels.

"If the prices for wheels had been put ten years ago the same as they are to-day, the wheels would not have been improved as they have been, because there would have been no money in them, there would have

been no inducement for the investment of money, and, besides, there would have been such a demand that it could not have been filled in two or three years.

"Take, for instance, Minneapolis: There were bought last year 30,000 cycle path tags; this means that there were 30,000 actual riders that ride their wheels to work. Now, taking a low estimate of 5,000 belonging to children and people who do not ride on cycle paths, we have 35,000 bicycles as a low estimate in Minneapolis.

"Does this look as if the bicycle had lost its popularity?

"This does not take into consideration the thousands of wheels that were sold to these same riders before last year and have been traded in to the city dealers and resold to the people outside of Minneapolis.

"When the wheels were heavy and crude and prices were high, only a limited number could have wheels, but these few bought new ones each year.

"That left the second hand wheel that could be bought much cheaper. Now that the wheels are up-to-date, lighter and all around satisfactory, there is a tendency to keep the old wheel until it was worn out.

"The demand was filled to a certain extent two or three years ago, but now those wheels are getting worn out and will be replaced by new ones from year to year. This will give the legitimate bicycle dealer who has taken care of his trade and is still in the business a chance to reap the benefits for his years of hard work to bring the bicycle business up to a paying basis.

"Just because there have been a large number of bicycle houses forced off the earth is no indication that those that remain are not doing more business than ever.

"If a shoe store on Nicollet avenue happens to close, does the public say that shoes are not being worn any more?

"Of course they wouldn't. The reason why they shut up is because they have no legitimate reason for ever opening up. Could not sell their goods, or, perhaps, like the dealers in bicycles that have quit, their goods would not stand the test of time and usage.

"When bicycles sold for \$150 it was not all profit to the manufacturer or the dealer, but there are people even to-day who think there is still lots of money in bicycles at \$35.

"Bicycles are not a fad, but are for the convenience of people and they will always be used as they are to-day. Anything that is practical will always find a place in this busy world."

The Colonel and the Prince.

Colonel Albert A. Pope, as the man who developed the bicycle industry, was one of one hundred "captains of industry" who last week dined with Prince Henry of Germany. According to a Boston paper, when the Colonel was presented to the Prince the latter remarked:

"Glad to meet you, Mr. Pope. I've heard of you often and have seen many of your Columbia bicycles in Germany."

DETROIT HOLDS SHOW

Cycles Did'nt Figure in Title but it was Mightily Like a Cycle Show.

Detroit, Mich., Feb. 28.—When he who is referred to in print as W. E. Metzger, but who is called practically by every one "Billy" Metzger, projected what he styled the "Tri-State Automobile and Sportsman's Show," he rather slighted his old love, the bicycle, and, as the event itself proved, the bicycle did not deserve the slight.

The show itself has been in progress here for three days, and is doubtless the nearest approach to a cycle show that the country will know this season. The showing of wheels was not dwarfed by those of automobiles and sportsmen's goods. Indeed, the two wheelers overshadowed the last named and fairly divided honors with the motor vehicles.

The bicycles, represented mostly by their local dealers, were a pretty representative lot. Most of the well known names found places on the stand signs, and the machines themselves bore convincing testimony to the fact that Detroit is a high grade town. There were very few of the cheap variety, and an even smaller number of the nasty. There was scarcely a stand that did not have a \$50 machine, while \$80 ones were almost as numerous. The latter were, of course, of the chainless, cushion-frame, coaster-brake type.

The building, the Light Guard Armory, is of moderate size, and every space on the floor was taken. The bleakness and barrenness of such an edifice was toned down, almost destroyed in fact, by effective, although simple, decorations. These consisted solely of flags, the Stars and Stripes being interspersed with a fair sprinkling of British flags.

Remarkably good taste was shown by the exhibitors. There was nothing elaborate, nothing showy. But a quiet good taste pervaded the entire building, there being few, if any, exceptions to this rule. The general effect was added to greatly by the sportsman's trophies, which were liberally sprinkled on the walls. Moose and deer heads, skins of small and a few large animals, fish and fowl, nearly all marked with the name of the doughty destroyer, comprised the collection.

A round of the exhibits revealed nothing of a startling nature. Radical innovations are scarcely looked for, however, so there could scarcely be disappointment on this score.

Of motor bicycles there were just two—an Orient and a Holly—the latter getting in only Friday afternoon. The latter, as far as could be seen in the crate which still encased it, has been materially improved in appearance. The tread is very much narrower, and the entire machine has been made smarter.

But two changes have been made in the

Orient, and these of minor importance. The construction of the float feed carburetter is such that the supply of gasoline is constant, while a lever permits the amount of air admitted to the explosion chamber to be varied. The compression cock has been done away with, and a lever fitted, which lifts the exhaust valve when desired to ease the compression.

The new Pierce spring fork attracted considerable attention, as did the Regas spring frame. But for the hinged joint at the crank hanger this could not be told from a rigid frame. There is ample spring and no apparent lack of lateral rigidity.

The Stearns Bicycle Agency equip most of their Stearns models with front forks of novel shape. The outside half of each blade resembled a half diamond, the apex, of course, being outside. A Stearns racer, minus handle bar and pedals, is hung from a scale, and weighs just eighteen pounds.

There are many cushion frames, and most of the chainless have coaster brakes. On the National and Yale the combination is Sager gear and Cinch coaster brake; on the Pierce it is bevel gear and New Departure. In all three cases demonstrations have been provided for by rigging up part of a cycle with chain, pedals, etc., which can be spun and stopped by the investigator. The same device is seen at the Barvest stand.

There is a nineteen pound Hudson, and a showing of Eagles with mechanical joints; Columbias, Clevelands, Crescents, Tribunes and other A. B. C. machines are scattered around the building with the local representatives.

The tire people are present in force. The Hartford Rubber Works, Fisk, Diamond, Goodyear, International and Goodrich, all have creditable exhibits.

The Solar and Twentieth Century people vie with each other in attractive exhibits of bicycle and vehicle lamps. The Hine-Watt Co.'s Columbia lamp likewise so shines that all may see.

Despite the rain the attendance has been large and the show successful.

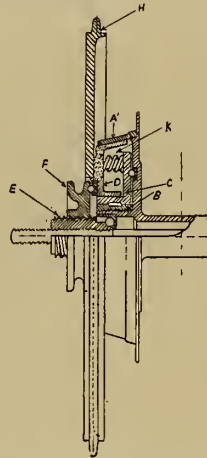
Among the cycle trade people in attendance were the following: Ezra Kirk, of Kirk Mfg. Co., Toledo; D. J. Post, of Veeder Mfg. Co., Hartford, Conn.; C. E. Monroe, of Frank Mossberg Co., Attleboro, Mass.; Henry Dunn, of Fisk Rubber Co., Chicopee Falls, Mass.; George Collister, Cleveland; W. E. Castle, of Twentieth Century Mfg. Co., New York; C. E. Weaver, of Kelly Handle Bar Co., Cleveland; J. C. Gilson, of Hartford Rubber Works; W. M. Perrett, of Diamond Rubber Co., Akron; J. Hoagland, of John H. Graham & Co., New York; H. C. Wilcox, of American Wood Rim Co., Bradford, Pa.; F. C. Finkenstaedt, of National Cycle Mfg. Co., Bay City, Mich.; C. F. U. Kelly, of Pennsylvania Rubber Co., Erie; R. H. Welles and L. J. Keck, of Badger Brass Mfg. Co., Kenosha, Wis.; S. A. Campbell, of Barvest Coaster Brake Co., New York; Ben Smith and H. B. Shattuck, Boston; Frank Riggs, of Riggs-Spencer Co., Rochester; E. P. Hubbell, F. E. Southard and "Pat" Hussey, of Toledo; W. B. Post, of Billings & Spencer Co., Hartford, and Bean, of the Bean-Chamberlin Co., Hudson, Mich.

To Drive Direct From Motor.

The possibilities of a friction clutch drive for chain transmission from the motor to the rear wheel have been briefly alluded to in *The Bicycling World*, and the section drawing here shown gives the details of one method.

On the left end of the hub barrel the spoke flange is made about five inches in diameter and fixed to it is an external friction cone, A1. Screwed into an extension of the hub shell is a hardened collar, B, with an oil groove. Slipped over this collar is a ring having a plate disk, C, carrying four helical springs, K. This ring is free to revolve on B when the clutch is at rest.

The motor chain wheel, H, is fixed to an internal friction cone, D, made of gunmetal, which slides on three featherways on the ring of C. The hub bearing cone, E, is elongated, and travelling on it by threaded con-



nection is a grooved pulley, F, actuated by two wires running to the handlebar. The helical springs, K, force the chain wheel cone, D, into contact engagement with the hub cone, A1, when the clutch is driving.

When one wire is pulled, F is rotated on the bearing cone, E, so as to force the inner clutch member, D, against the springs, K, and so release the driver by disconnecting the inner and outer clutch members. When the other wire is pulled the pulley travels in an outer direction, so that the springs can force the clutch into frictional engagement, thus connecting the motor and the rear wheel.

It will be noted that the plate disk, C, has a ball thrust against the spoke flange of the hub. Also, that the pulley has a similar thrust against the cone, D, but is in no way direct connected to same. From this latter construction it can be seen that, no matter how suddenly the engaging wire may be operated, the friction cones cannot be brought together with greater force than the tension of the springs will give.

This mechanism, properly designed in its relation of parts, ought to give many advantages in motor bicycle manipulation. In the first place, the drive from the motor could be cut out when the bicycle is started with the pedals. This would make less work for the rider, as the motor would only be cut in for its impulse strokes after headway had been obtained. With this headway but little ex-

ertion would be required, as the momentum of the bicycle would carry the motor over enough times to start it in its work. For temporary slowing down, or for riding through traffic or past crowded crossings, it also gives the advantage that the motor can be cut out of work without stopping it. For city riding this is a decided advantage, as it is not a pleasure to frequently start up the motor by pulling it over with the pedals. Another advantage is that there is always a little slip possible to compensate for any jerkiness in the motor, thus overcoming one of the greatest objections to the use of a chain that the belt advocates now set up.

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Chili Buying Freely.

Writing of trade conditions in Chili, Consul Mansfield states that a number of representatives of American firms have recently arrived in Valparaiso to solicit business, and in nearly every instance they have secured liberal orders.

"Every mail from the United States," he adds, "brings to this consulate a large number of letters and catalogues from manufacturers and exporters. The catalogues are placed in the hands of local merchants and importers and the business letters answered, giving the names of dealers who handle the line of goods represented. This plan keeps local merchants informed of the class, variety and quality of goods offered by manufacturers and exporters in the United States. Many Valparaiso merchants also apply to the consulate for information concerning American goods.

"In this connection, I wish to say that many American firms that go to the trouble and expense of writing to United States consuls and to merchants in foreign countries do not attach sufficient importance to their letters. In some instances these communications are mimeograph copies, or are circular letters printed upon a poor quality of paper; in others the signature of the writer is attached with a rubber stamp. As a rule, little attention is paid to such letters, the majority of which are promptly thrown into the waste paper basket. Business letters addressed to merchants in foreign countries should be neatly and carefully prepared, and a good quality of stationery should be used. The signature should be written with a pen. It gives the prospective buyer a better impression of the house sending out the letters, and these will not only be read, but generally filed away for reference."

"How to Drive a Motorcycle." See "Motorcycles and How to Manage Them." \$1. The Goodman Co., Box 649, New York. ***

CONTROLLING MOTOCYCLES

How to Reduce the Number of Levers and Give Proper Order of Regulation.

One of the points in motor bicycle regulation that will receive more attention in the near future is the combining of some of the various operations and controlling them from one of the grips. This is now being worked out by one motor bicycle designer and, while permission is not given to go into the details, the general idea is as follows:

The switch for the spark, the throttle for the gas and the advance of the spark are all manipulated by one connection in the grip. It will be appreciated by those who have had any experience in the matters under consideration that this involves some particularly clever arrangements in order that the parts may not be cumbersome and yet at the same time be sufficient for the work they are to do and have long wearing life.

The parts are so grouped that the first moment of movement at the grip throws in the primary circuit. A slight further movement of the grip gradually opens the gas throttle, and the completion of the twist of the grip advances the spark by any desired graduation.

The purpose of the designer in working out the combination is based on the desire to save the engine, the battery and the gasoline when riding downhill or under other certain conditions of slow riding, and to add efficiency to the motor in hill climbing. It will be noted that both the current and the gas can be cut out when desired, and that slow running can be done on low compression to save heating the motor.

When the primary circuit is established the gas throttle is only opened enough to give a small charge, just sufficient to run the bicycle under normal road conditions. To increase the speed up to a certain point gas only is used, the advance of the spark not beginning until the full charge of gas is being admitted. To get full speed the spark is next advanced, the gas supply always being a fixed quantity at any point of sparking.

The point made for this method of regulation is that while gasoline consumption can be cut down, for slow running, by setting the spark high and admitting a throttled amount of gas, this saving is more than offset by the heating conditions that come from high compression at the moment of sparking. By reversing the conditions the motor runs better because it stays cooler, and at the same time has longer life because it runs at a slower speed.

Another effect will be found in hill climbing where the grade is too steep or too long to be rushed at top speed. Those who have had experience in this kind of riding know that best hill climbing results are usually obtained by running the motor at low speed with a full charge of gas. By the combination here outlined the spark can be set back but the gas kept full on.

How Kellogg Missed Millions!

According to a newspaper dispatch from Findlay, Ohio, the man who made the first pair of rubber tires and who allowed another man to make a million out of his invention, has been visiting that city. The man's name is given as J. G. Kellogg.

According to the story, Kellogg in 1863 was in the marble business in New York City when one day A. T. Stewart, the dry goods prince and president of the Bank of America, came in and wanted something done to save the floors of the bank, which were being ruined by the heavy shipment of specie being trucked over them, the iron wheels of the trucks grinding into the marble slabs. No remedy seemed possible, until at last Mr. Kellogg suggested that bands of heavy rubber be vulcanized around the wheels, making tires. This was done with eminent satisfaction. The mechanic who did



NEW YORK BRANCH: 214-216 WEST 47TH STREET.

the job was sharp enough to have it patented, and died a few years ago worth a million. The old rubber tired truck is still in use in the New York bank.

These Were Awarded the Palm.

In the Crystal Palace show motor bicycles were shown on twenty-seven stands, the number of machines on view being something over one hundred.

After inspection of the various bicycles, the jury made awards as follows:

To King & Co., Cambridge, for the best motor bicycle of English make with foreign motor; To the Fabrique National, of Belgium, for the best foreign made motor bicycle; to the Quadrant Cycle Co., for the best distinct improvement (Lloyd's patent combination lever). The prize for the best English made motor bicycle throughout was awarded to the British chain driven Humber.

In England and Ireland cyclists go in to quite an extent for camping out in any number from one up to regular club affairs. It is stated that one enthusiastic Irishman spent no less than four months under canvas last year.

MINNEAPOLIS ALERT

Tradesmen Meet, Talk, Revise Repair Tariff and Then Play "Cinch."

Minneapolis, Minn., Feb. 22.—The Minneapolis Cycle Trade Association held its regular meeting on Tuesday evening, and the discussion and after talk make plain that the outlook for the coming season is very bright for the cycle man, and indications are that more wheels will be in use than heretofore. The rider of a bicycle this coming season will find more real pleasure than in the past, too, as there will be many new paths built, and those now constructed will be kept in better shape than in the past.

The association itself is becoming stronger, several applications being acted upon. The jobbers and the association are working hand in hand, and are shaping affairs to strengthen each other for mutual protection.

The new price list for 1902 is being issued to the members. The prices for repairs are about the same as last year with but few exceptions. The price for putting in coaster brakes has been reduced, bringing them within the reach of all.

The matter of dropping articles, such as wood, coal and rubbish, on the streets from carts was one of the subjects discussed. The association will endeavor to bring the matter before the proper authorities and see that in the future the nuisance is attended to in the proper manner. No definite action was taken at the meeting, but the matter will be taken up in the future.

A local fuel dealer, who is also a member of the association, made the remark that the cause of the littering of the wood and coal on the streets was the wood dealers' endeavor to give people good measure, the carts being loaded to the overflowing point. He will no doubt be appreciated by the general consumer, but the cyclists who are continually being jarred by his kind endeavors will hardly appreciate his benevolence.

The meeting wound up with a cinch party, in which all had a good time.

Sherman on Motorcycle Situation.

George W. Sherman, who is looking after the interests of the Hendee Manufacturing Co.'s Indian motor bicycle, was in New York last week, after having spent some little time in New England.

He reports that indications are unusually promising and talks of disposing of 1,000 motor bicycles at \$200 each as if it were a mere nothing. The interest in and around Boston he described as "fierce" and of the substantial sort. Fred E. Randall, the Indian agent in Boston, has already booked some thirty-seven orders for April delivery.

Sherman also states that the motor bicycle has brought so many new agents to Hendee that it is likely to prove something of a task to meet the demand for the Indian push cycles.

RACING

The motor bicycle is about to make its appearance on the "cycle whirl." Stone and Judge, who are among the riders that go the dizzy pace on the miniature track, have each purchased an Auto-Bi to add to the interest of the performance.

"Bill" Martin evidently means to locate permanently in Australia. Australian papers just to hand report his purchase of a large hotel in one of the suburbs of Melbourne. He previously had an interest in a small hostelry in the city itself.

Reports to the contrary notwithstanding, Eddie Bald will make an effort to "get into the game." He is "boiling out" at Hot Springs, and will train at Louisville. Floyd McFarland is with him, and has apparently assumed the role of "angel" or manager, it is hard to tell which. Arthur Gardiner, the one time Chicago crack, also has symptoms of a return of "track fever," and may reappear; ditto Earl Kiser.

Rochester has just gone through the throes of a six day bicycle race. On the eighteen lap track in Fitzhugh Hall thirteen riders began the six day go-as-you-please,

eight-hour-a-day grind for 40 per cent of the net gate receipts, to be divided among the first eight to finish. From all accounts, it does not appear that the first eight will be overburdened with the filthy. Krebs, of Brooklyn, and Butler, of Boston, were the only entries of more than local notoriety. Krebs won with 775 miles to his credit, Shaw second with 772 miles 5 laps, and Sprague third, with 771 miles and 6 laps.

The seven teams riding in the two hours a day six day race at the Coliseum track, Atlanta, rode 45 miles and 4 laps on February 25. On February 26 they were still tied at 44 miles 1 lap. Rutz and Leander made desperate attempts to gain a lap, but were held by Fenn and Caldwell. Rutz was fined for fouling Hadfield.

Owing to bad weather on February 27 the management decided to postpone the racing until the following night, and also decided to have the finish on Monday night instead of on Saturday. There was some savage sprinting on the night of February 28, Leander and Rutz gained two laps, Lake and Turville gained two, while Fenn and Caldwell lost one lap. The finish was very exciting. Leander, Fenn and Hadfield were the leaders in the last mile. The two rode neck and neck until the last lap, when Leander forged ahead and finished half a wheel to the good. The distance ridden was 48

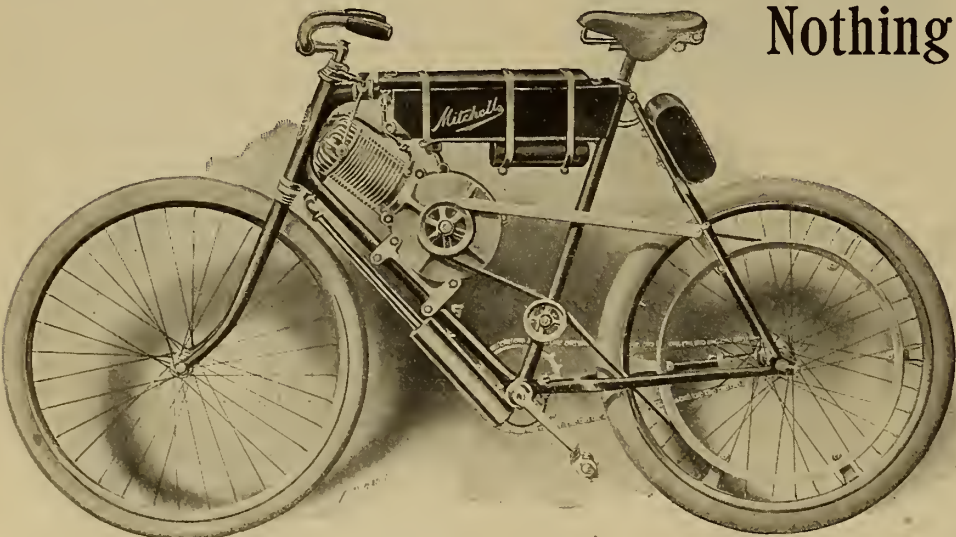
miles and 3 laps. The standing of the teams for the four days' riding is as follows:

Teams.	Miles	Laps.
Leander and Rutz.....	182	1
Lake and Turville.....	182	1
Fenn and Caldwell.....	182	0
Hadfield and Galvin.....	181	9
Lawson and Barclay.....	181	9
Bennett and Hunter.....	181	9
Field and Walthour.....	181	9

Three of the teams, Field and Walthour, Bennett and Hunter, and Lawson and Barclay, made up one of the laps they had lost earlier in the week. The night's riding was a succession of jumps and sprints, which kept the riders who were holding down the rear end guessing. The riders covered on March 1 46 miles and 8 laps. The score stands as follows:

Teams.	Miles	Laps.
Leander and Rutz.....	228	9
Lake and Turville.....	228	9
Fenn and Caldwell.....	228	8
Hadfield and Galvin.....	228	8
Lawson and Barclay.....	228	8
Bennett and Hunter.....	228	8
Field and Walthour.....	228	8

In the wind-up on Monday Rutz and Leander won by two lengths from Lake and Turville, who were a lap ahead of the other teams. The score of the two teams for the twelve hours was 276 miles 9 laps. Hadfield and Galvin, Walthour and Field, Fenn and Caldwell, Lawson and Barclay, and Bennett and Hunter, finished for place prizes. The distance covered on the last night was 48 miles.



Nothing Freakish in the Design

OF THE

Mitchell
Motor
Bicycle.

THE PROOF OF THE PUDDING, Etc.

Mr. F. I. Carter, our energetic Salt Lake City agent, thought at one time that all motor cycles were alike, and it was only by working our stenographer overtime we were able to induce him to try a Mitchell.

Salt Lake City, Utah, Feb. 22, 1902

WISCONSIN WHEEL WORKS, Racine Junction, Wis.

GENTLEMEN:—Every day during the past week we have used our new Mitchell Motor Cycle on the streets of Salt lake with splendid success. The machine is meeting our every requirement it is reliable, speedy, of easy control and handles all our grades without an effort.

As a means of advertising the Mitchell line and my own business it has a value greater than its listed price and, as a matter of fact, it is the best medium we have ever used.

Other Motor Cycles have come and gone but the Mitchell is here to stay and we treated our citizens to a genuine surprise when we brought out the Mitchell and it proved itself a goer. We would not do without the machine, for several times its price, if we could not get another.

Yours very truly, F. I. CARTER.

The Mitchell Motor Bicycle takes the traveling man where he wants to go at small expense Mr. Hofmeister purchased his machine last October.

Milwaukee, Wis., Feb. 24, 1902.

WISCONSIN WHEEL WORKS, Racine Junction, Wis.

GENTLEMEN:—Have been riding your Mitchell Motor Cycle from one end of the state to the other and cheerfully admit that there is no conveyance of any kind that comes anywhere near your Motor Cycle.

The speed rests entirely with the rider. If you enjoy it you can reduce the speed so you almost crawl along; while, if the road is smooth and your sporting blood is up, you can race with passenger trains and they must be good ones if they can shake you.

For commercial travelers that are not overloaded with samples they are the ideal thing. Because you do not have to wait for trains, one can make more towns and consequently earn more money. Last, not least, save all livery expense, and railroad fares. Yes, the Motor Cycle is the best conveyance out and a beauty. Recommend it to anybody that likes to cover big territory at a better speed than can be obtained by horse. My average expense for fuel was only about 12 cents a day.

No. 326 14th Street.

Yours truly, LEO. HOFMEISTER, Representing Milwaukee Oil Specialty Co.

LIVE BICYCLE AGENTS ARE RAPIDLY COMING UNDER COVER OF THE MITCHELL CONTRACT.

See samples at following General Agencies:—HENRY VAN ARSDALE, No. 20 Broad Street, New York City; GEO. S. ATWATER, No. 8 Merrimac Street, Boston; WHIPPLE CYCLE COMPANY, No. 260 West Jackson Boulevard, Chicago; MITCHELL, LEWIS & STAVAR CO., PORTLAND, ORE.; SMITH & ZIMMER, MINNEAPOLIS, MINN.

Manufactured by WISCONSIN WHEEL WORKS, Box W, Racine, Wisconsin.

DUNLOP ON MOTORS

Inventor of Pneumatic Tire Lectures on the Subject and Hints at Discoveries.

In a recent lecture by J. B. Dunlop, the well known inventor of the pneumatic tire, at Glasgow, the small motor and its connection with the bicycle came in for notable attention, a number of good points being brought out, particularly on the subject of proper mixture. In the matter of contact at the spark controller a statement was made that is coming to be pretty generally recognized by makers.

Regarding this matter of contact the lecturer stated that for igniting the compressed gas in the cylinder a single spark is found to be as effective as a stream of sparks, and 1-600 of a second is ample time for the current to flow before the circuit is broken. This points to further economy in electricity.

The sensational statement of the lecturer, and one that will certainly prove a startling surprise to those who believe they know something about wiring, is that single strand naked electric wires had been in use for over twelve months and had given entire satisfaction. The surprise of this statement was further added to by the claim that water may be thrown over these wires without affecting the running of the motor, and that mysterious short circuits are impossible.

Coming to the subject of mixture, Mr. Dunlop continued as follows:

Some leading experts say that the motor is most easily started when the mixture is rich. Others tell us that the mixture should be rather poor for starting. In practice, however, instead of making the mixture richer or poorer, as they think they do, they merely correct and make normal the imperfect mixture, which in spray carburetters has a tendency to become too poor, and in surface carburetters too rich, when the engine is being started.

I have no doubt but spray carburetters for motors will supersede surface carburetters.

Careless workmen when making petrol tanks often allow the chemicals used in soldering to run into the interior. These chemicals continue to act on the inner surface of the tank when in use, and cause a discharge of a fine powder, which partially chokes the fine spraying nozzle of the carburetter, and thus spoils the mixture. When the petrol is kept clean the spray carburetter is the better one.

You all understand that the function of the lungs is to mix air with the blood, which is practically a fuel. Well, a carburetter does the very same thing. There is this difference, however: In the lungs the air is condensed and dissolved in the liquid, whereas in the carburetter the liquid fuel is dissolved in the air in the form of vapor.

With cut-out governors where the speed of the motor is uniform, it is a simple matter to adjust the carburetter to suit the speed, but in motorcycles, where the speed of the

motor and quantity of air taken in at each charge is constantly varying, it is more difficult to keep the mixture right.

An automatic carburetter which would always keep the mixture correct and require no attention would, I think, be a desideratum for motorcycles. Let us, for instance, take the case of a small $3\frac{1}{2}$ horsepower motor, whose cylinder capacity is three-quarters of a pint. The correct quantities required for each charge (average throttling) would be half a pint (six grains) of air, and three-quarters of a drop (one-half a grain) of petrol.

Now, supposing a whole drop, or half a drop, of petrol, instead of three-quarters of a drop, were taken in for each average charge, the engine would miss fire, or smoke the plug, or stop altogether. If you want to run smoothly and silently, and your engine to be efficient and odorless, you must keep the mixture right.

Catalogs That Sell Bicycles.

Clever man that he is, F. C. Finkenstaedt, of the National Cycle Mfg. Co., Bay City, Mich., is not one of those who falsely believe that a "we take pleasure in presenting our steenth announcement" preface, and a lot of dry as dust specifications make up a catalogue.

He apparently appreciates that while the specifications may be perfectly intelligible to the agent, they are often so much Greek to the intending purchaser, as he also appreciates that the true mission of a catalogue is to arouse the interest and enlighten the reader and impress and make plain the superior features of the particular bicycle involved, and thus to assist in the sale of the bicycle.

Accordingly the National catalogue has always been one of the "select few"—one that really says something and is readably written and worth reading.

The 1902 production is no exception to the rule. There are really two catalogues, one containing the specifications inclosed in a cover illuminated with the picture of a stunning girl, the other "set off" with American battle-ships, flags and the eagle, telling the story of the National. The first page is not styled "preface," "introduction" or "greeting." Instead, "What Makes a Bicycle?" is the conspicuous headline. The question is answered at considerable length. This is the mere beginning:

"The bicycle is a vehicle with two wheels. It may be good, bad or indifferent, but still it's a bicycle.

"Some riders are indifferent as to what they buy so long as it has two wheels, while others want good bicycles, and want to know why they are worth more than the other kinds.

"This little pamphlet tells about some things in bicycle construction that are not apparent on the surface, but which, nevertheless, go to make up the bicycle which 'gives its rider perfect satisfaction.' Methods, as much as materials, make a bicycle what it is. You have to go beneath the paint to find out what they are."

Then follows a presentment of National features so plainly and enticingly written that if it does not help sell National bicycles it is hard to conceive what will sell them.

THIRD EDITION.

There is always one **BEST**—one that stands at the top—a-top-notch—It may not be the best known and is never the lowest in price. In coaster brakes

BEST^{and} CINCH

are synonymous. Last season a few Cinch coaster brakes showed their purchasers the new principles that had been introduced in coaster brake construction. This season we have sold and shipped all but a few hundred that we originally intended to produce and are well along on the second lot and just starting a third edition. This explains why the **CINCH**, "the one that coasts," remains at \$5.00, why our price to the trade is higher than others on which prices have been "revised" two or three times since starting the season. It may offer some explanation for the "revision."

We don't want all the business—we don't want to sell those who are looking for the lowest price—we don't want to sell those who wish to buy on a past reputation established without competition—we only want to sell those who want the **BEST**—A trial of the Cinch will quickly demonstrate to you that it overcomes those annoyances you have suffered with others—Sell the Cinch and those annoyances will disappear—your troubles will be over—then you will wake up in the night and laugh.

WRITE FOR OUR TRIAL OFFER PROPOSITION.

RIGGS-SPENCER COMPANY,

Manufacturers,

ROCHESTER, N. Y.

The Week's Exports.

February finished well in the matter of cycle exports. France with purchases of upwards of \$16,000, Germany with \$11,500, England with \$9,000, Denmark with \$5,500 and Holland with \$5,000 accounted for the bulk of the shipments. The consignments to New Zealand, British Africa, Italy, Belgium and the West Indies were also of snug proportions. The record in detail for the week follows:

Antwerp—42 cases bicycle material, \$1,545.
Argentine Republic—1 case bicycle material, \$100.

Arnheim—1 case bicycle material, \$1,000.
Amsterdam—7 cases bicycles, \$280.

British Possessions in Africa—55 cases bicycles and parts, \$2,062.

British East Indies—50 cases bicycles, \$563.

British Guiana—4 cases bicycles and material, \$217.

Brazil—1 case bicycles, \$74.

British Australia—11 cases bicycles and material, \$478.

British West Indies—51 cases bicycle material, \$1,175.

Cuba—8 cases bicycles and material, \$354.
Copenhagen—75 cases bicycle material, \$5,496.

French West Indies—1 case bicycle material, \$13.

Genoa—23 cases bicycle material, \$1,495.

Glasgow—2 cases bicycles, \$65.

Havre—860 cases bicycles, \$12,510; 52 cases bicycle material, \$3,877.

Hamburg—451 cases bicycles, \$9,921; 32 cases bicycle material, \$1,645.

Liverpool—23 cases bicycles, \$595; 1 case bicycle material, \$35.

London—69 cases bicycles, \$2,680; 79 cases bicycle material, \$3,483.

Milan—9 cases bicycle material, \$591.

Malmo—1 case bicycle material, \$87.

Mexico—1 case bicycles, \$27.

Naples—1 case bicycles, \$45.

New Zealand—40 cases bicycle material, \$3,807.

Peru—2 cases bicycles and material, \$125.

Rotterdam—100 cases bicycles, \$2,251; 48 cases bicycle material, \$1,573.

Stockholm—2 cases bicycle material, \$175.

St. Petersburg—27 cases bicycle material, \$632.

Southampton—20 cases bicycle material, \$2,268.

Santo Domingo—1 case bicycle material, \$15.

Venezuela—1 case bicycle material, \$36.

Says Cycle Taxation is Infamy.

The Mayor of Toledo, O., is not a believer in cycle taxation. He not only does not believe in it, but he regards it as "little short of infamy," and "spoke right out in meeting" to that effect at the first opportunity, that is, when he presented his annual message to the City Council. He denounced the system in this language:

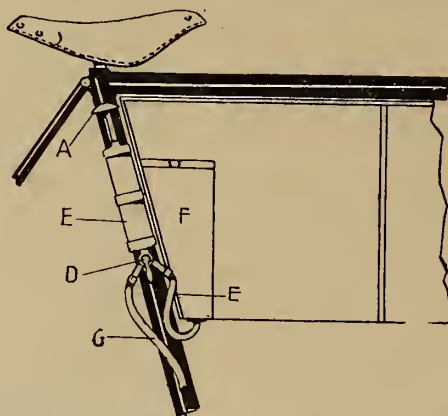
"I regard the wheel tax as little short of infamy. The idea that thousands of men and women, boys and girls, who work for

small wages and strive to economize by using bicycles to go to and from their work, many of them making great sacrifices to get possession of even a cheap wheel, and that these must yet be subjected to a tax for the privilege of riding their wheels is a wrong and a shame. Let us make amends, as far as we can, by repealing the law. Of course, bicycles and vehicles of all kinds are 'property,' and when they have once been returned for taxation, according to the provision of the constitution, that should end the matter. If they have not been returned that is the fault of the assessor, presumably, or is due to the delinquency of the tax inquisitor."

Lubrication via the Pump.

Mention was made in these columns a few weeks ago of a positive method of feeding lubricating oil to the crank case of the motor by means of a plain pump made on the general idea of a tire pump. In answer to a number of inquiries, the device is illustrated herewith.

The barrel, B, of the pump is clamped to



the side of the seatpost frametube in a position easily reached from the saddle. Through the top moves the plunger, with its handle, A. At the lower ends is a three-way union with a cock, D. This union has one pipe, E, running to the oil supply, F, and a second pipe, G, leading to the crank case.

In using, the oil tank is filled about three-quarters full and its cap screwed down air tight. The cock is then turned to a position that connects the pump with the oil tank, but shuts off the crank case connection. A few strokes of the plunger are then given to force air from the pump into the oil tank. On the last stroke the plunger is left at the bottom of the stroke, when the oil will run into the pump and raise the plunger to its top position. When the plunger has risen the cock is turned to cut off the feed from the tank to the pump and to open the delivery from pump to the crank case. The plunger is then pushed slowly down to force one measure of oil into the crank case. The cock is then turned back to its first position, when the pump will again fill and raise the plunger.

A traveller abroad claims that he once saw a sign on the "front" of a cottage, "Cyclists's rest. Front door round at the side." The country in which this was seen is left to the acute reader.

The Retail Record.

Scranton, Pa.—Florey & Brooks burned out.

Campello, Mass.—George J. Donahue has opened store.

Buffalo, N. Y.—Henry Zahn, 613 Broadway, slight fire loss.

Reading, Pa.—Charles T. Heckler moved to 222 Penn street.

Beaver Falls, Pa.—Frank Hicks, bought out G. W. Schaney.

Batavia, N. Y.—George P. Thomas & Bro., fire damage; insured.

Salem, Mass.—Clem Cooper will reopen at No. 289 Essex street.

Booker, Va.—W. R. Brownley, jr., slight fire loss; no insurance.

Edgeworth, Mass.—John Hannigan opened store in Adams street.

Savannah, Ga.—Thompson & Clark; William H. Clark, deceased.

Wakefield, R. I.—Harry Clarke moved to Ransford Collins Building.

Malden, Mass.—Jeremiah Murphy opened store in Highland avenue.

Great Barrington, Mass.—Minkler & Collins moved to Berkshire Block.

Pittston, Pa.—William L. Krise will open store in South Main street.

Buffalo, N. Y.—V. E. Ripper, opened store at No. 13 E. Genesee street.

Waterloo, Iowa—Waterloo Mfg. Co. bought stock of W. D. Pollock; will retail.

Detroit, Mich.—Rambler Cycle and Automobile Co. filed notice of dissolution.

Hyde Park, Mass.—C. Thomas Griffiths, slight fire loss; covered by insurance.

Lynn, Mass.—Whitten & Pollard dissolved partnership; Mr. Whitten succeeds.

Quincy, Mass.—South Shore Bicycle Co. moved to No. 94 Washington street.

Stockton, N. J.—I. Teitelman, opened repair shop at Twenty-third and Federal streets.

Glens Falls, N. Y.—Walter S. Hyde, purchased Fred F. Newberry's interest in Cleveland cycle agency; new style will be Morris & Hyde.

Milk as Tempering Liquid.

The tempering of steel with uniform results is a feat hardly to be achieved by the most expert artisan. A German inventor has devised a process for accurately obtaining any desired degree of hardness, the variations being effected by changes in the liquid used, and depending on the fact that graded results may be produced by the use of milk in varying forms and dilutions—that is, by fresh and skimmed milk, sweet and sour whey, fresh and old buttermilk, and different mixtures with water. The various stages of acidification of milk are also said to give all the effects of hardening in oil and other fat mixtures.

In attaching spark coils to motorcycles it should be remembered that to encase them in metal for the sake of appearances is fatal to their best working. The field of the high tension coil is for a space of about four inches in all directions, and should not be tampered with.

"OUR ADMIRATION IS GENERALLY GIVEN - NOT TO THE MAN

who does what nobody else attempts to do, but to that man
who does BEST what multitudes do well." *Macauley*

This holds the secret of our continuous and
healthy growth; it accounts for our prestige
as makers of good tires.

HARTFORD SINGLE TUBE AND THE DETACHABLE **TIRES** **DUNLOP TIRES**

ARE THE ORIGINAL PNEUMATIC TIRES
OF THEIR RESPECTIVE TYPES.

THEY WERE BEST YEARS AGO,
THEY ARE BETTER TO-DAY.

The maintaining of their high quality throughout
these many years, and our unceasing efforts in the direc-
tion of improving them wherever possible, has placed
these tires **far in the lead of all competitors.**

IMITATIONS MAY COME AND GO,
BUT "HARTFORD'S" and
"DUNLOP'S" LIVE ON FOREVER
IN POPULAR FAVOR.

**QUALITY TELLS
IN THE LONG RUN.**



Manufactured by

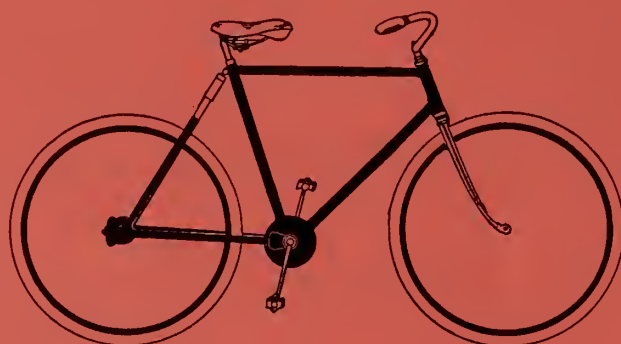
**THE HARTFORD
RUBBER WORKS
COMPANY, . . .**

HARTFORD, CONN., U. S. A.



Pierce Cycles

FOR 1902 ARE ON TOP.



Chainless,

Centre Driven,

Leland & Faulconer Gears,

Pierce New Departure Brake,

Hygienic :: Cushion :: Frame,

~PIERCE SPRING FORKS;~

The Luxury of Cycling made real.

THE GEORGE N. PIERCE COMPANY

BUFFALO.

~

BOSTON.

~

NEW YORK.

~

DENVER.

~

SAN JOSE.

CHEATS CREDITORS

Why Bankruptcy Law Should be Repealed —Some Nauseating Instances.

With one accord the entire commercial interests of America are asking, "What will Congress do with the national bankruptcy law?" Every merchant, manufacturer, tradesman, lawyer and man of affairs who is in touch with the forces that are shaping the trend of business events knows that the repeal or the material amendment of the Federal bankruptcy act now in force is one of the most vital and significant pieces of legislation now before the lawmakers of the National Congress.

All probabilities point to amendment instead of repeal. At a recent meeting of their national association the credit men of the United States took definite action by urging the passage of an amendment known as the "Ray bill." This strikes at a correction of the gravest defect of the existing bankruptcy act, and holds that "payments or partial payments on account, without intention on the part of the debtor to prefer or acknowledge on the part of the creditor that the debtor is either insolvent or intended to prefer, should not be held as preferences."

The necessity for such an amendment arises from one of the most celebrated and far reaching decisions in the history of bankruptcy litigation. In the famous Carson, Pirie, Scott & Co. case the United States Supreme Court held that partial payments "on account" made within four months previous to filing a petition in bankruptcy, although without the knowledge on the part of the creditors receiving such payment that the debtor was in a condition of insolvency, must be refunded before the creditor could be allowed to participate in the estate of the insolvent. On the other hand, an account paid in full during that period was upheld.

This not only gave the creditor who pushed his claim without leniency an unqualified advantage, but it also compelled the creditor who had shown mercy to accept a partial payment as full settlement of the claim or to take his chances that his percentage of the estate would yield him a larger amount than the payment "on account" already in hand. Such a choice frequently involves a problem of extreme difficulty amounting to mere guesswork. Though the correction of this phase of the law would be greatly in the interest of justice, the relief thus afforded would be at best temporary, incidental and inadequate. Nothing short of the repeal of the entire act can satisfy the full demand of commercial fairness.

The ethics of the bankruptcy act cannot be more succinctly stated than in the words of Hon. Christian C. Kohlsaat, of the United States District Court, who recently declared: "This law is needed only in times of financial depression. . . . But it would not do

for this law to be a permanent thing. It is an immoral thing to contract debts to be cancelled by law. It is an immoral thing to lose sense of honor and pay debts by going into bankruptcy. And it is an immoral thing for a land to have a law in force always which would permit dishonest men to get the better of their creditors. This law may be all right for a year. After that time it should be repealed."

What is the practical operation of the bankruptcy law now in force? It affords the shiftless, tricky and dishonorable a sure and safe means of preying upon the merchant who is doing an honorable and legitimate business. And this advantage is used with the most shameless effrontery. As an example of this practice let me state an instance which came under my personal observation.

A merchant who had but recently passed his affairs through the bankruptcy mill, thereby absolving himself from 70 per cent of his indebtedness, applied to me for credit. Our previous dealing had been entirely on a cash basis. He gave me a written statement that he had in his own right a business capital of \$10,000. When asked to explain how he could be worth this amount of money on the heels of bankruptcy proceedings which yielded his creditors only 30 per cent of their claims, he smilingly replied that his affairs had been in the hands of a very careless attorney. The latter was so forgetful that he neglected to schedule with the petition in bankruptcy an asset of \$10,000. This was not discovered until immediately after the court had issued the discharge. Of course, it was a great surprise; but there was nothing to do but make the best of this stroke of legal carelessness—and this was what he was trying to do!

Another significant light on the practical workings of this law is to be had by reading the advertisements of bankruptcy lawyers. These may be seen in almost any of the metropolitan daily papers or in the so-called legal journals. I recall one such advertisement which set forth the fact that the total expense of passing through bankruptcy was guaranteed to be only \$40. Another urged that all persons burdened with indebtedness should take immediate advantage of the law, as its repeal was being agitated and the golden opportunity was likely soon to be closed. From the records of some courts, however, it would seem that very few persons have neglected to rid themselves of their obligations by this legalized method of escape. For example, between July 1, 1898, when the law went into effect, and December 31, 1899, 489 petitions in bankruptcy were filed in the United States Court at Birmingham, Ala.; 247 at Montgomery, and a total of 900 in the entire State. Of the 247 filed in the capital city of the commonwealth 244 were voluntary petitions. In this connection it should be said that there is no particular reason for the belief that Alabama is more fortunate than her sister States in the number of citizens willing to absolve themselves

from their indebtedness through the convenient agency provided by this law.

An incidental effect of this law is a terrific blow to general legal practice. One brilliant and witty attorney summarizes the effect of this act upon his calling as follows:

"When a firm failed prior to the time when this law went into effect the lawyers got 99 per cent of the assets, the creditor who was the sharpest and liveliest hustler got 1 per cent, and the rest got what the boy shot at. Now the bankrupt files his petition, gets his discharge, snaps his fingers at the men who were indiscreet enough to sell him goods, and proceeds to acquire a new assortment of creditors."

So liberal, from the debtors' viewpoint, are the provisions of the present law, that it is abused in a wholesale way by men who are eager to escape small debts. When the cost of going through bankruptcy is only \$40—and sometimes less—it will be seen that a very small indebtedness is sufficient to tempt a man to use this expedient. Recently a mechanic owing a board bill of a little more than \$100 filed a petition. The widow to whom this amount was due was told that the law would give her almost nothing. She exclaimed: "How can such things be in this country?" and was led sobbing out of the courtroom. The pathos of the scene touched the hearts of all—save the delighted petitioner.

An inevitable result of the bankruptcy act as now construed by the Supreme Court is to make commercial houses extremely conservative in the extension of credits. This must, of necessity, work hardship to many tradesmen who, but for the easy means of evading their obligations possible through this act, would be much more liberally dealt with by the wholesalers. This enforced curtailment of credit and denial of extensions cause many to go into bankruptcy who might otherwise have pulled through, paying their entire obligations dollar for dollar.

A glance at the history of bankruptcy acts shows that the public conscience is becoming gradually hardened on this score. The first law of this kind was passed in the dark days immediately following the Revolutionary War. It was limited to five years, but was repealed in three years because the public became convinced that it was subjected to abuse. Next came the act of 1841, following the panic of 1837. Again the conscience of the people quickly reasserted itself after only thirteen months of operation. In 1867 our commercial integrity suffered another assault in the form of a Federal bankruptcy statute, and the results were so disastrous that this was repealed with considerable promptness. About the same time England endured the same kind of a moral relapse, which caused one of Great Britain's celebrated jurists to observe: "While this measure continues in force no man with a proper sense of his duty to his family will think of paying twenty shillings in the pound."

In view of these and many other equally convincing facts, says Dorr A. Kimball in the "Saturday Evening Post," I cannot escape the conviction that the present bankruptcy act has long outlived the period of its legitimate expediency and should, for the commercial honor of our country, be wiped from the statute book.

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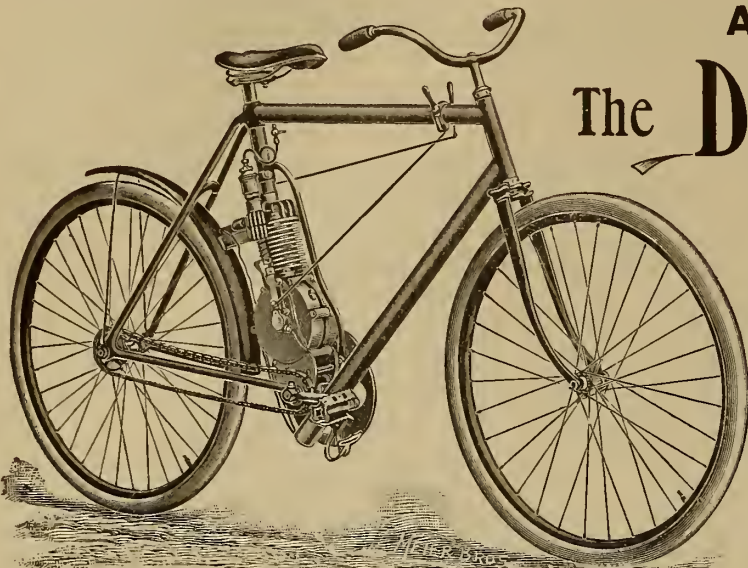
Our machine is original—no tanks, belts, cases or bags.

Built for long trips.

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THE DE LONG MOTORCYCLE.

THE COMBINATION

of price, quality and guarantee
that go to make up

THE OAK SADDLE



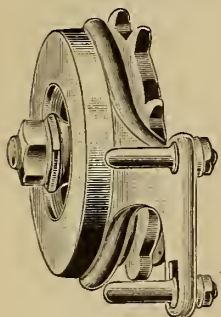
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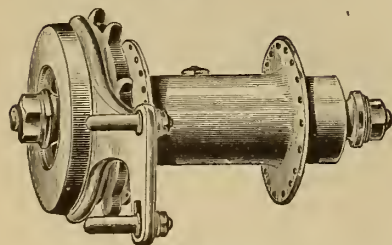
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DETACHABLE.



UNIVERSAL.

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COASTER, BRAKE AND HUB COMBINED.
WILL FIT ANY BICYCLE. READY TO IN-
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MADE TO FIT THE LEADING STANDARD HUBS.
BOTH MODELS WILL ALLOW REAR WHEEL TO
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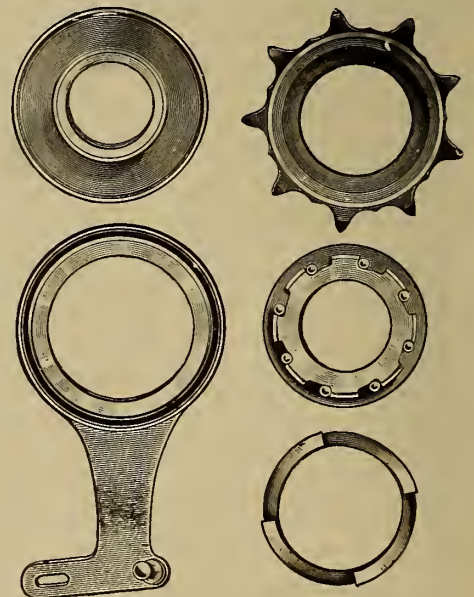
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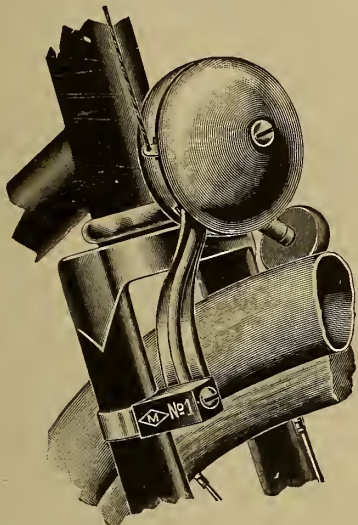
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THE FIRST, IT IS STILL THE
FOREMOST.

ALWAYS GOOD. IT IS NOW EVEN
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Does What a Bicycle Bell Should Do.

Gives a loud, continuous, unmistakable,
clear-the-road alarm.

Few parts; no spring in striking mechanism;
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Can be operated on either front or rear
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"PERFECT"



25c.

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Semi-weekly transcontinental tourist cars between the Atlantic and the Pacific coasts are operated by the Nickel Plate and its connections. Tourist cars referred to afford the same sleeping accommodations, with same class of mattress and other bedclothing, that are provided in the regular Pullman sleeping car service. These tourist cars leave Boston on Mondays and Wednesdays, and leave San Francisco on Tuesdays and Fridays. Berths in these tourist cars are sold at greatly reduced rates. Conveniences are offered without extra cost, for heating food, or preparing tea or coffee, affording every facility for comfort on a long journey, especially for families travelling with children. Lowest rates may be obtained always via the Nickel Plate Road for all points in the West. For special information regarding all trains on the Nickel Plate Road, including these tourist cars, consult your nearest ticket agent, or write A. W. Ecclestone, D. D. Agt., 385 Broadway, New York City. ***

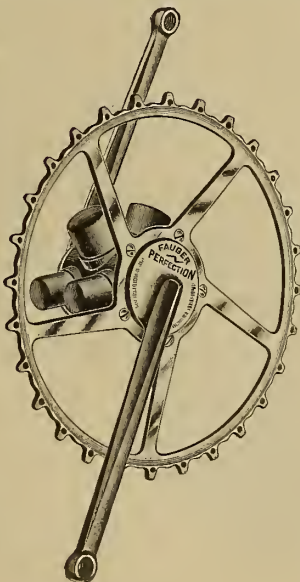
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Here's a method of case-hardening small pieces, which comes from abroad:

Surround the pieces first with yellow prussiate of potash, then with leather (old boots), then with clay, and pack in an iron box of some sort, usually a piece of gas pipe. Plug up the ends with clay; place the whole in the fire and keep at a red heat for four or five hours; then quench in water. The usual difficulty with workers in a small way is to keep the articles at a uniform temperature for such a long time; the kitchen fire suffices. The clay prevents the carbon from the prussiate and leather from being absorbed by the box or fire, and so wasted.

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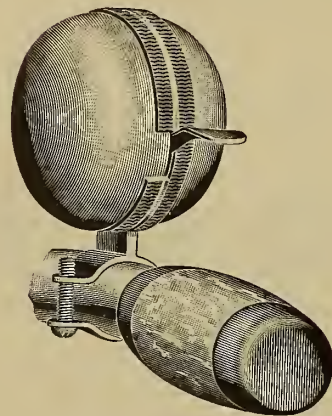
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one that few men in the cycle
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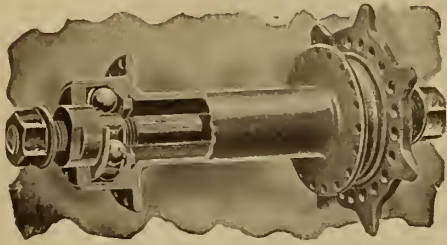
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Write for Complete Description and Prices.



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ALSO REGULAR ROAD HUBS.

Worthy of Their Name.

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Cheap but Good and Well Worth Their Price

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wheels must have the
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There is nothing that gives more value for
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MORSE TWIN ROLLER CHAIN



NOISELESS IN MUD, WATER OR
DUST AND ALWAYS EASY RUNNING.

The only chain having Frictionless
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15 cents per line of seven words, cash with order.

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WRITE US FOR PRICES.

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THE ARMSTRONG "A" CRANK-HANGER



is conceded by competent judges to be the
most perfect in point of design, mechanical
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that it is possible to produce. Made in
one grade only, the highest. Handsome
in appearance; simple in construction; easy
and positive adjustment. We make the
most complete line of bicycle frame fit-
tings and crank hangers on the market.
Our 1902 prices are low. Write for them.

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WORLD BICYCLES.

Jobbing Wheels a Specialty.

LARGEST INDEPENDENT MAKERS IN THE COUNTRY.

Upon receipt of 40 cents in stamps we will mail one
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HAS A POINT ONLY 1/16 IN. DIAMETER.

Bicycle salesmen wanted to handle the MAGIC as a
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IDEAL HANDLE BARS

The Standard Bars of America

Get our new prices on bars and extensions for 1902 and
you will be agreeably surprised. Electro for the asking.

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THE CROSBY COMPANY,

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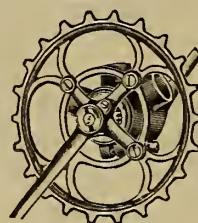
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The Admiral

THE ONLY LAMP WHICH BURNS
EITHER OIL OR GAS.

...Made by...

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FOR
Single,
Tandem,
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Lightest, Nearest Dust Proof, and
Easiest Running Hanger in the World.
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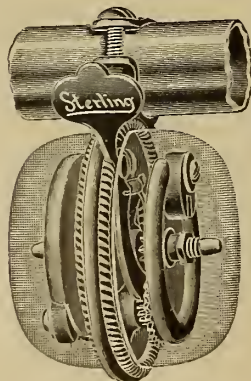
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SIMPLE, COMPACT,
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EVERY BELL GUARANTEED.

FOR SALE BY THE WHOLESALE HARDWARE AND
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Clear, Loud, Penetrating
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WRITE US

Don't put it off and think that tomorrow will do—

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We want to tell you about the

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bicycles for 1902. They are sold by representative dealers. They will give an eighteen carat freshness to your store. They have done it many times for others and can do the same for you—and—

DO IT NOW

Stearns Bicycle Agency
GENERAL DISTRIBUTORS
Syracuse, New York.

The Week's Patents.

Charles R. Barrett and Elwood C. Phillips. Chicago, Ill. Filed July 12, 1901. Serial No. 67,949. (No model.)

Claim.—1. The combination with the elongated outwardly projecting flexible attaching-neck of a pneumatic tire, of a valve casing fitting the bore of said neck, and a clamping collar fitting outside said attaching-neck, and provided with inturned flanges or beads at its respective ends, substantially as set forth.

694,030. Cycle Stand, Carl W. L. Schmidt, Holzminden, Germany. Filed April 27, 1900. Serial No. 14,546. (No model.)

Claim.—In a cycle stand, the combination of the two bars, pivoted together between their ends, the bar being provided at its upper end with a rounded bracket extending outwardly from the bar, the other bar being provided at its upper end with a hinged band adapted to encircle a portion of the bicycle frame, a bar pivoted at its upper end to said pivot, and a chain connected to said bars and below their pivot, and stops secured to the bar for engaging said chain to lengthen or shorten it, substantially as described.

694,110. Carbureter for Explosive Engines, Louis H. N. Sanson, Dieppe, France. Filed Oct. 2, 1900. Serial No. 31,805. (No model.)

Claim.—In a carbureter, the combination with a carbureting chamber having outlet ports for carbureted air in its top and being open at its bottom, of a casing constructed with an upwardly extending portion arranged within the carbureting chamber, the exterior diameter of which upwardly extending portion is less than the interior diameter of the carbureting chamber to form an intermediate space, said casing having also a portion surrounding the carbureting chamber provided with air inlet openings, the interior diameter of which latter portion is greater than the exterior diameter of the carbureting chamber to form an intermediate space, means for admitting oil to the carbureting chamber and means for heating the upwardly extending portion of the casing which is within the carbureting chamber.

694,264. Utilizing Power in Velocipedes. Antony Gibbs, Bristol, England. Filed June 15, 1900. Serial No. 20,461. (No model.)

Claim.—1. A pump adapted to act either as a motor or a compressor, comprising a cylinder, a valve in said cylinder, a piston, a valve and valve spindle in said piston, and means for turning said spindle in opposite directions whereby the pump is changed from a compressor to a motor or the reverse.

Prospective Purchasers

are now

"Looking Around."

It is merely a matter of days before they will reach a decision. It is the time when the wideawake dealers are making the most of the

CUSHION FRAME.

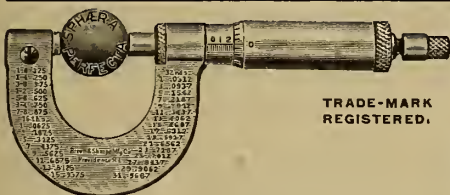
There is no class of riders to whom it does not appeal. The old rider or the new one can be shown how greatly it adds to cycling pleasure and comfort, and the arguments are so strong that few can deny them if they are properly put. We take it for granted that you are one of the wideawakes.

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WE ARE THE ONLY MANUFACTURERS WHO CAN MAKE THE FOLLOWING GUARANTEES:

That every ball is a perfect sphere.
That every ball is within 1-10,000 of an inch of exact size.
That the balls are made of the best quality of true crucible tool steel.
That balls bought from us at one time will be exactly like balls of a similar size bought from us at any other time.

THE STEEL BALL COMPANY,

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20th Century Double Bells**SOMETHING NEW IN THE BELL LINE.**

Very musical chime. Two stationary gongs. Two bells in one.

LOUDEST RINGING BELLS ON THE MARKET.

50 CENTS LIST PRICE.

Trade Price is Low Enough to Satisfy Everyone.

☛ We have THREE OTHER SPECIAL BELLS at INTERESTING PRICES.

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WILLIS PARK ROW BICYCLE CO., 23 Park Row, New York.

HAVE YOUR BICYCLE EQUIPED WITH A

NEW DEPARTURE COASTER BRAKE

SOLD EVERYWHERE BY EVERY BODY

MANUFACTURED BY
THE NEW DEPARTURE BELL CO.
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ALWAYS SATISFY.

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If you ride or sell,
or intend to ride or sell
motor bicycles

"Motocycles and How to Manage Them"

is the very book you need.

Every page teaches a lesson. Every illustration "speaks a piece."

And there are 126 pages and 41 pictures, too

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A land rich in minerals, grains, fruits and vegetables, developed from the sage brush by industrious and intelligent labor; a city unique in its location and its character, having a delightful climate and every other inducement for a sojourn there. Reached by the through connections of the

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The **Snell
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An OLD ESTABLISHED NAME PLATE
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Used on all up-to-date wheels and sold
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If you ride or sell,
or intend to ride or sell,
motor bicycles,

"Motocycles and How to Manage Them"

is the very book you need.

Every page teaches a lesson. Every illustration
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THE 1902 AGENCY
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New Models. New Features.
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OUR AGENCY IS VALUABLE.

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Special lines for THE JOBBING TRADE, including such well-known brands as
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Travelers are now covering the territory with a full line of sundries and a proposition that is exceedingly interesting.

Our SELLING DEPARTMENTS handle every standard sundry known to the trade at lowest prices.

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The Bicycling World

AND MOTOCYCLE REVIEW.

In which is incorporated "The Wheel and Cycling Trade Review" and the "American Cyclist."

Volume XLIV.

New York, U. S. A., Thursday, March 13, 1902.

No. 24

COLOSSAL FRAUD IN CHICAGO

Clever Scoundrels Make Many Purchases and Then Vanish—Assets: One Bag.

"Did you sell Wheaton & Smith?"

This question was first asked early during the recent Detroit show. As the week wore on it became something of a joke, so often was it asked, and was carried to the Chicago automobile show, which was attended by quite a gathering of cycle tradespeople.

The question was led up to by some below cost quotations on Solar lamps, for which the makers could not account. D. J. Post, of the Post & Lester Company, was first to hear of the quotation. He called it to the attention of L. J. Keck, of the Badger Brass Manufacturing Company, and by a process of elimination they narrowed the cut down to a new Chicago firm, styling themselves Wheaton & Smith, and doing business at No. 307 Wabash avenue. Post also had sold them goods, and inquiry at Detroit developed that many others present had done likewise.

When Chicago was reached investigation was instituted that resulted in uncovering a steal of colossal proportions. It developed that the firm had made large purchases, not only from nearly all manufacturers and jobbers of cycle sundries, but had bought goods of all kinds in all directions, reshipping the stuff as fast as it was received. The goods were all purchased on thirty days' time, the first bill falling due March 5.

At the first suspicion of trouble the firm itself vanished, a stenographer only being in evidence at the Wabash avenue address. The only available asset was a punching bag and a desk, a search of which brought to light papers showing that the firm had purchased not only cycles and sundries, but several tons of hay and cotton waste and large bills of agateware, rugs, laces, guns and sporting goods and rubber goods of all kinds, in fact, almost everything conceivable.

Later a warehouse was discovered but nothing of value was found, but a constable was placed in charge and detectives were immediately placed on the track of the principals and of one Guild, who posed as the

buyer. A receiver also was applied for and appointed.

The firm had been doing a small sporting goods business at the address for about one year and was composed of Messrs. Wheaton Smith, and a silent partner, W. M. Booth. The latter was formerly a United States commissioner, and was said to represent a client. It later developed that the client was a man named Paulson, who is at present under sentence for fraudulent dealings of a similar nature. The firm was rated at \$70,000 good in Dun's. On February 4, however, \$35,000 of this was withdrawn by Mr. Booth or his client, and the rating was cut in half. The report was good enough, however, to induce the various firms to ship goods readily on thirty days' time, and as most of the goods were bought within the past thirty days nothing could be done. A bill of Post & Lester, however, came due on March 5 and combined action was taken as above, the interested parties having put up a \$2,000 bond. It is the intention of the victims to press the criminal charge if any of the members are caught.

Is Now a Corporation.

W. Smalley Daniels having disposed of his interests, the business of Smalley & Daniels, Grand Rapids, Mich., has been taken over by the W. B. Jarvis Company, Ltd.; capital, \$25,000.

The new company will be under the management of Mr. Jarvis, who has associated with him; C. B. Kelsey, cashier of the People's Saving Bank, as chairman; James Bayne, of the Bayne Photo and Engraving Company, as secretary, and a number of prominent business men and sportsmen of Grand Rapids.

With largely increased capital, it is the intention of the new company to increase their business, both wholesale and retail, in bicycles, sundries and sportsmen's goods. The State will be regularly covered by travelling salesman.

Mr. Jarvis, who is also treasurer of the new company, has been identified with this line of business for the past fifteen years in Grand Rapids.

J. C. Plimpton, of J. C. Plimpton & Co., Liverpool, is in the city. It is understood he has a deal of considerable magnitude on tapis.

TUBING AGAIN GOES UP

For the Third Time Prices are Sharply Advanced—Alleged Cause of the Rise.

Tubing, that is, Shelby tubing, has been again advanced. On small lots the new price is particularly stiff.

Although it was denied at the time, the Bicycling World some three weeks since foretold the increase, so that its imposition at this time is scarcely in the nature of a surprise.

It is the third advance made since the Shelby Steel Tube Co. was absorbed by the United States Steel Corporation, and it is believed that the top notch has been reached.

"But, 'there's no telling,'" as the saying goes.

According to an informant, who is certainly worthy of trust, the billion dollar steel corporation is taking no chances. Its officials not only expect each of the constituent companies to earn a dividend, but actually name the dividend. The Shelby Co., for instance, has been set to earn substantial dividends on both its common and preferred shares, and the figures laid down are such that its heads will be put to it to "make good" and preserve their reputations and, perhaps, their position.

The successive advances in the price of tubing are ascribed to this policy, which is in substance, "Earn dividends; never mind the means, but earn them."

Royal Comes to New York.

The Royal Motor Works is no longer of Chicopee Falls, Mass. It is now of New York, offices in this city having been established last week at 29-33 West Forty-second street. The first run of the Royal motor bicycles was quickly taken by waiting purchasers, and the second batch, with which some delay was experienced, is promised for next week, and thereafter Royals will come through regularly.

Bell Mechanism in Court.

Suit has been brought in the United States Circuit Court at Hartford by the New Departure Mfg. Co. against Starr Bros. Bell Co. and N. N. Hill Brass Co. for alleged infringement of certain New Departure patents. The chief point involved is the striking mechanism as applied to bicycle bells.

FOR FREE MOTOR BICYCLES

All the Good old Games are Being Revived and Reworked—Some of Them.

"If the efforts to get motor bicycles without paying for them is any criterion, the demand may be said to have already pretty well established itself," remarked Henry Van Arsdale, the New York representative of the Wisconsin Wheel Works, to a Bicycling World man the other day.

"They are working all the time honored games to get them. In one week recently we had four requests of the sort, every one of them telling us what a splendid advertisement it would be did we but place one of our motor bicycles at the disposal of each particular writer.

"One man was going abroad, and thought he could work up many orders for us. A New York society man wrote us that his standing and influence in the fashionable world and in club and military circles would make the gift of a motor bicycle particularly profitable. He spun out a list of the clubs of which he is a member that would fairly stagger the maker who was giving away goods. One of the 'touches' was, of course, from a racing man. The fourth was from a one-legged rider, who impressed on us the wide advertising and flow of orders that follow his riding of our bicycle; the 'fact' that the public would all rush for motor bicycles when they saw how easily they could be ridden and handled even by riders with only one leg was unfolded at great length, and it should have impressed us, even if it didn't.

"Yes, sir, you may say that the motor bicycle is getting on famously."

Echo of the Boom.

A reminder of times that were is furnished in a recent sale at public auction of the Mannesmann Cycle Tube Works, at Adams, Mass.

The plant was bid in by Register of Probate Fred R. Shaw for the sum of \$25,500. Mr. Shaw was present in the interest of the town of Adams, which has a claim on the property for \$13,000 for back taxess.

As it stands at the present the property is in the name of Mr. Shaw, who made a deposit and took a receipt for the same. The sale will have to be confirmed by the New York Bankruptcy Court. This is because of the fact that it did not bring 75 per cent. of the appraised value of the property. The court will meet in New York, when the matter will be brought up.

At present there are no plans as to the disposition of the property. Between now and next month the attorney and the selectmen of the town will have a conference, at which time something definite will be arrived at.

The property at first was divided into six lots, because some wanted to bid on one thing and some on another, and to see if the sale would amount to as much as if it were

sold in a lump. The total of the six sales was only a little over \$14,000, while for the entire plant the above price was brought. The amount realized will clear up the expenses in the several bankruptcy courts and will pay the bill of the town and leave a little to be divided up among the creditors, of which there are many in the town of Adams.

Merseles Comes Back.

Theodore F. Merseles, confidential assistant to the president of the American Bicycle Co., returned last week from a visit of several weeks which embraced both England and the Continent. He reports the cycle trade in the several countries which he visited as being in a splendid condition, and the outlook for American bicycles abroad as being distinctly improved and more favorable than for several years past.

While absent he instituted several changes and economies affecting the A. B. C.'s foreign business. Chief of these was the abandonment of Paris as a distributing point. The branch there will be continued, but the surplus stock will be hereafter warehoused in Havre, thereby saving several items of expense. The depot in Hamburg will be maintained as heretofore.

Marconi on Motor Bicycles.

Although the fact has generally escaped remark, Signor Marconi, of wireless fame, is a motor bicyclist. He drew attention to the fact at the dinner of the Automobile Club of America in this city on Friday last. He detailed how he had applied a wireless telegraph outfit to his automobile and sent dispatches to his home when thirty miles distant. "But," he added, "I have done nothing of the sort with my motor bicycle. I find that it gives me plenty to do as it is."

Scherer Incorporates.

Articles of association have been filed by H. Scherer & Co., Detroit, Mich., with a capital stock of \$200,000, all paid in. It is divided into 20,000 shares of the value of \$10 each. Hugo Scherer has 12,000 shares; Clara S. Scherer, 4,000 shares, and F. E. Wadsworth, 4,000 shares. The company handles carriage goods, iron and steel and wholesale bicycles.

Henshaw With Auto-Bies.

C. S. Henshaw has engaged with the Buffalo Automobile and Auto-Bi Co., and will probably travel New England. He last year traveled New York State for the same concern. Henshaw is no slouch when it comes to motors or motor bicycles, and he should therefore be able to give a good account of himself.

Where Mail-Orders Irritate.

The veteran Prince Wells, of Louisville, Ky., who is now one of the largest jobbers in the South, is among the many who report a marked renewal of cycling interest and demand. Mail order competition afflicts the Southern country, he says, but while sufficient to constitute an irritation, it is not particularly serious.

USED "U. S. A" IN FRAUD

How a French Firm Cleverly Pirated an English Trademark and got Into Court.

The Court of the Civil Tribunal of St. Etienne, in the department of Lyons, recently decided a case which developed a clever piracy in which two good names were taken in vain, the abbreviation "U. S. A." being used to hide the fraud.

The plaintiffs were the Birmingham Small Arms Co., Ltd., of England, and the defendants a French firm of cycle fittings manufacturers trading under the name of Pons & Gauvin, at St. Etienne and Lyons. The defendants had been marking fittings of their manufacture with a device consisting of three lines arranged in the form of a tripod, and having thereunder the letters "U. S. A.," and the plaintiffs, who are the owners of the well known trademark of three piled rifles combined with the letters "B. S. A.," instituted the proceedings for an injunction (with costs and damages) to restrain the defendants in the use of this mark on the ground that, having regard to the manner in which the same was applied to the goods, it constituted a colorable imitation of the B. S. A. fittings, whereas they were really obtaining those of Pons & Gauvin's make.

After hearing all arguments judgment was delivered on the 4th in favor of the plaintiffs, who obtained the injunction sought for, with damages and costs; in addition, the court ordered that all the defendants' fittings bearing the infringing mark should be confiscated, and that defendants should, at their own cost, advertise the judgment of the court in certain French papers.

Demand Pleases De Long.

It is undoubted that the De Long motor bicycle, devoid, as it is, of visible tanks, coils, batteries and the like, is a machine to command attention. That it is commanding attention a personal line from Manager De Long, of the Industrial Machine Co., attests:

"Business is rolling in," he says, "and the demand is fully up to my expectations."

"I find the Bicycling World a good paper to advertise in," he adds. "It has brought us a great deal of correspondence regarding our machine."

"Has-Been" in Bankruptcy.

An echo of cheap bicycle construction was heard in the United States District Court at Chicago on Wednesday of last week, when debts amounting to \$90,100, contracted in connection with the Standard Cycle Works, were scheduled in a petition in bankruptcy filed by William W. Vernon. The petitioner was a director.

Among the Eastern visitors the week past were T. H. B. Varney and E. E. Stodard, of Dunham, Carigan & Hayden, of San Francisco. They report the bicycle business on the Coast in a flourishing condition.

FOR A COASTING CONTEST

Big Event of the Sort on Tapis—May be run on Riverside Drive.

If—and it must be admitted that it is rather a large "if"—the Park Commissioners of New York are as generous as their colleagues in Brooklyn the Metropole Cycling Club, which set out to add interest to cycling, will hold a coasting contest on the famous Riverside Drive.

But whether or no the necessary permission is obtained, the projected event has already secured for the bicycle and for the coaster brake more publicity than they have been securing of late years.

The application to the Park Commissioners was made by A. G. Ibbekin, chairman of the committee in charge of the event, and for the suggestions it conveys to men in other places it is here reproduced:

"As chairman of a committee of this club commissioned to conduct a coasting contest on May 3 or 10 next, I am seeking an accessible course for the event. In this connection the accessibility and desirability of Riverside Drive have occurred to me, and, before proceeding further, I beg to inquire whether it is within your pleasure or authority to permit us to hold the contest on one of the roadways of that drive.

"While I am aware that there is a rule of long standing prohibiting coasting, it was enacted when it was necessary that feet be removed from the pedals and before the coaster brake came into general use. With this device, as you may be aware, the cyclist coasts with feet on pedals and wheel under complete control, the merest back pressure on the pedals applying the brake and bringing the bicycle to a stop.

"With these altered conditions in mind, it seems possible that you may be able to see your way clear to grant the desired permission, and thereby enable us to hold the contest on a public pleasure ground accessible to all. We feel sure that it will prove one of interest and entertainment to thousands of our citizens."

In backing up the request one of the club officials said:

"If the Brooklyn Park Commissioners can give over a Brooklyn parkway for a bicycle race or for automobile speed trials, as they have done, and no harm, but much entertainment for thousands of Brooklynites resulted, precedents for our request and for favorable action by the New York authorities certainly are not lacking. Mr. Ibbekin's application explains what we most desire—an accessible course—and, as the coasting contest is open to all and is in no sense a money making affair, but simply reflects the renewed interest in cycling that is daily becoming more apparent, it seems to me that the Park Commissioners can, without loss of dignity or without treading on any one's corns, grant our application. As a coasting contest does not mean a crowd of a

hundred or half hundred barelegged riders dashing at full speed the full length of the drive, but means only several heats of not more than two men gliding down a hill and gradually coming to a stop, I cannot see that any one will be shocked or offended in any way. Since coaster brakes came into use the park rule against coasting has been a dead letter, anyway."

Unusual Suit Settled.

Chicago, March 6.—A decision, said to be the first of its kind in this country, and having as one of its few parallels the celebrated English case of Allen against Flood, which was decided by thirteen judges in the House of Lords two years ago, was rendered by the Appellate Court to-day, in the appeal taken by the London Guaranty and Accident Co. from a judgment secured against it for \$800 by Gustav Horn.

Horn sued the company on the ground that it had wrongfully persuaded Arnold, Schwinn & Co., bicycle manufacturers for whom he worked, to discharge him. According to the Appellate Court the company is liable, and the judgment of the lower court is affirmed.

The insurance company has a policy for \$5,000, in favor of Arnold, Schwinn & Co., by which the latter were insured against loss from legal liability arising on its premises to employes and others. On January 7, 1899, Horn was injured while engaged at his work, and sued his employers. On June 26, 1899, it was alleged, upon the demand of the insurance company, accompanied by a threat that it would cancel the policy unless its demand was complied with, Arnold, Schwinn & Co. discharged Horn.

No More "Trading" in Philadelphia.

Philadelphia bicycle dealers have taken by the horns the matter of accepting old machines as part payment on new ones. The dealers have got together and signed an agreement whereby the only consideration that will be accepted in selling a new machine will be the coin of the realm.

Customers having old machines to dispose of can place them in the hands of the dealers, who will sell them, acting as brokers only, and turn the proceeds over to the owner.

Return of the Ripper.

Last Friday the Electric City Cycle Co., of Buffalo, N. Y., was incorporated with a capital of \$10,000. The directors are Giles Meinel and V. E. Ripper, of Buffalo, and W. H. Ives, of Addison. Messrs. Ripper and Ives are well known in the trade. Mr. Ripper was formerly in business in Buffalo, and after earning a reputation as a cutter of prices failed. Mr. Ives was manager of the Empire State Cycle Co.

League Meet at Atlantic City.

According to reports from Boston, Atlantic City, N. J., has been selected as the place for the next annual L. A. W. meet. The date has not been set, the arrangements being left to a committee of Philadelphians.

PRINCE BUYS A BICYCLE

His Royal Highness Selects a Chainless—Rumpus in Germany may Result.

If the "tons of food and oceans of drinks" of which Prince Henry and his suite disposed while in this country did not convince the cycling world that they were brave men, one of their last acts before sailing should carry conviction. They purchased and took with them two American bicycles, both Columbia chainlesses, fitted with coaster brakes.

The sale was made on Monday by Elliott Mason, the veteran manager of the Columbia branch in this city. One of the bicycles was delivered aboard the Hohenzollern, the imperial yacht, the other to the Deutchland, on which the Prince sailed.

The bicycles were purchased in the name of Lieut.-Commander Von Egidy, the Prince's personal aide; the other in the name of Lieut. Schmid von Schwind. The former, which had a 24-inch frame and 74 gear, is understood to be for the Prince's personal use. Full price was paid for both, \$80 each, the check being drawn by the imperial bankers in this city, Ladenburg, Thalmann & Co.

In the natural order of things, when news of the purchases reaches Germany, a mighty howl should go up, since the German cycle trade has been rabidly anti-American and has lost no opportunity to create sentiment against the American product. Manufacturers and dealers alike have joined in the crusade. Great, spread-eagle ads. have been printed warning Germans against American bicycles, agents who handled them were derided and refused credit, and papers that printed American advertisements have been boycotted. Indeed, nothing has been too vile to be left unsaid or undone. With this situation in mind, it may be readily imagined the fury that will be aroused when it is known that American bicycles are in use by even the royal household.

What Kelleher Says.

J. J. Kelleher, who has been traveling New York and a part of New Jersey in the interests of the Waltham Mfg. Co., was in New York last week.

"If New Jersey and Pennsylvania prove as good as New York," he answered in reply to the time honored question, "the Orient people will have no complaint to make. Everywhere trade appears to be looking up, and dealers, generally speaking, are hopeful and full of renewed confidence.

"I think that not a little of this is due to the *Bicycling World*," he added. "You have done good work in helping roll away the clouds and placing the trade in its proper light."

Elkes Goes Abroad.

Harry Elkes sailed for Europe on Thursday last. He will do most of his racing in Paris, but expects to return to this country in June.

IT WAS A NATIONAL CHAINLESS THAT PAYNE RODE



MODEL 50 NATIONAL CHAINLESS.

From
New York
to
Buffalo
in
42 Hours
55 Minutes

beating the record
over an hour.

They are better than ever for 1902.

NATIONAL CYCLE MFG. COMPANY,
BAY CITY, MICHIGAN.

~ FISK TIRES ~

will always be made in the same
careful manner, only of best ma-
terial and by skilled workmen. ∴

THEY WILL ALWAYS BE THE HIGHEST GRADE.

FISK RUBBER COMPANY, Chicopee Falls, Mass.

BRANCHES:

BOSTON,
604 Atlantic Ave.

SPRINGFIELD,
40 Dwight St.

NEW YORK,
83 Chambers St.

PHILADELPHIA,
916 Arch St.

SYRACUSE,
423 So. Clinton St.

BUFFALO,
28 W. Genesee St.

DETROIT,
252 Jefferson Ave.

CHICAGO,
54 State St.

SAN FRANCISCO,
114 Second St.

THE BICYCLING WORLD

FOUNDED 1877
and MOTORCYCLE REVIEW

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Change of advertisements is not guaranteed unless copy therefor is in hand on SATURDAY preceding the date of publication.

Members of the trade are invited and are at all times welcome to make our office their headquarters while in New York; our facilities and information will be at their command.

To Facilitate Matters Our Patrons Should

Address us at P. O. Box 649.

NEW YORK, MARCH 13, 1902.

The "Trading" Proposition.

Most radical is the action reported from Philadelphia in the dealers of that place signing an agreement to do away with the trading of bicycles. If there has been one thing more than another to upset calculations in the matter of the year's profits with bicycle dealers it has been the trading in of old machines as part payment on a new mount.

While it is true that other lines of retail business, such as pianos, typewriters and sewing machines, are carried on with more or less success in this direction, it is also true that these lines have certain fixed rules to go by that have never obtained in bicycle selling. That is, in typewriters, for instance, a certain line of defined makes are classified by their numbers, and when a salesman meets with a trading proposition he knows just how much to allow. With the bicycle, however, this has not been possible, and the result has been to upset the calculations of many a dealer, particularly at the time when prices were making material changes in any

two seasons. Had there been only standard makes on the market matters would have been better, but the flooding of the country with mail order bicycles added to the uncertainties and complications.

So far as Philadelphia is concerned, the whole thing has been simplified in a direct manner. Hereafter when a rider wishes to purchase a new bicycle he will be obliged to buy outright in place of turning in as part payment an old machine for a new one. The dealers will take wheels at any time and place them on sale, if the riders so desire, and as a result customers really stand a chance to get more money than they otherwise would, as they will frequently sell for more money than the dealer could offer to pay and take all the chances.

Helpful Advertising.

Now that the selling season is opening and a feeling of renewed faith and cheerfulness has succeeded the depression caused by the literal drowning of last year's business, no opportunity should be neglected to imbue the public with the renewal of cycling interest.

It is "in the air" that an unusually good year is ahead. Not only does trade orders and trade talk indicate it, but inquiry of ex-cyclists serves to bring out that outside of trade circles the desire and intention to resume cycling is of unusual proportions.

If makers and dealers will but realize it they can do much in their advertising to spread and help along the idea or existing impression. Elsewhere in this issue we present some suggestions for local advertisements that make for this end. They are capable of unlimited adaptation and will prove as good in one place as in another.

Advertisements along these lines should not only do something toward minimizing the effects of the "craze" and toward placing bicycles and bicycling in their true light, but are shaped to create or renew cycling interest in the public mind.

Imitating the Ostrich.

It is quite natural that the British press should find cause for jubilation in England's having passed America in the matter of cycle exportations during the year 1901. It is such an isolated instance that the joy is all the keener, and has again brought to the surface the peculiar ostrichlike trait that appears a part of the British nature.

Thus, in congratulating its people on the state of affairs, Cycling reiterates that oft

repeated absurdity, "the English machine has completely ousted the American from this country." This, despite statistics that demonstrate beyond shadow of doubt that, while America's export trade declined nearly half a million dollars, the loss was not due to the United Kingdom, which increased its purchases to the value of some \$60,000 during the year.

Cycling evidently appreciates that in making its false statement it is merely imitating the ostrich and hiding its head in the sand, as following its statement about the ousting of the American bicycle it makes this babelike confession: "It may be only our self-conceit and our love of country that makes us think so, but we think so just the same."

If English conceit or patriotism takes the form of refusing to believe truth, there is no longer room for argument. It explains anything that has happened or may happen. The man or nation possessed of such weakness is more to be pitied than censured. If Cycling reflects the prevailing sentiment, it is easy to foresee England's finish, long though it be delayed.

The Ideal Cycle.

Once more we urge those interested in motorcycles to not overlook the combination motor tandem.

While the single machine does not lack attractiveness, the attraction is many times multiplied in the case of the tandem.

In theory, a tandem is the ideal machine. In fancy, it enables man to easily and quickly carry weaker woman far afield, to scenes and on roads which her physical limitations deny to her.

In point of prosaic fact, however, the tandem with woman for a passenger is usually little short of a "man killer."

Propelled only by muscular effort, it can never even approach its theoretical advantages; it lacks something, and plainly the "something" is that which will lessen the labor of the man, and as plainly the motor is the only thing in sight.

Given a well operating motor and the mixed machine should prove alike ideal in fact and in fancy.

From the standpoint of the manufacturer and dealer, the motor tandem also has advantages, one in particular—it will command its price, and a fair one, with far less higgling or question than will the motor bicycle. At \$250 a motor tandem should find a ready sale, and one that will increase with

the years and the spread of motor knowledge.

It will afford many women the first taste of the real pleasure that cycling affords—the pleasure that comes of being able to go far from a few “easy” and oft travelled roads to which the average wheelwoman has been heretofore limited.

Value of Prompt Payments.

There are few things more valuable as an asset in business than the reputation of paying bills promptly. While there may be times, particularly in the opening of the season, when the retailer will find it somewhat hard to take advantage of all the opportunities that present themselves in the way of cash discounts, a little figuring and foresight will bring out occasions that would otherwise be overlooked.

Whatever may be the causes to prevent at the first of the season, these rarely continue for any extended time, and the rule should be laid down to plan at the earliest possible moment. Not only will the gain be made from the discount itself, a gain that offers much larger return for the investment than can be obtained in any manner outside of business, but a basis will be established that will frequently bring about other opportunities for pecuniary advantages.

There are concerns that claim their cash discounts pay all salaries. This is perhaps possible only in large establishments, yet no matter how small the business may be a careful attention to the matter will probably surprise those who have not tried it in showing how many items, such as insurance, light and heat, can be offset and made profitable in place of expensive.

Playing Safe.

One feature of the retail trade this year that points to a satisfactory condition is that dealers are not loading up with long lines of goods, a condition probably brought about by last year's rainy weather experience that extended over the ninety best selling days of the season. Orders are being placed in a liberal manner, but deliveries are being arranged with a view toward arrival at convenient dates in relation to possible demands from customers.

Profiting by last year's experiences agents are careful in their ordering hardly more than needed for immediate requirements, and by this businesslike method they will be able to keep a much more regular and satisfactory demand upon the makers. These

conditions bring about a far more desirable position for the manufacturer, who will know that the goods being sent out are finding a disposal, in place of remaining on the floors to depreciate in value.

About Foreign Trade.

Foreign trade should not be treated as a side issue or an emergency outlet that can be opened or closed at will. Nor should it be imagined that foreign customers are always ready and waiting to take what the home market does not want or cannot absorb.

Instead of taking up foreign trade as a last resort and giving it only spasmodic consideration, export business should be developed with as much system and persistence as any other feature of the distribution of product.

Export trade is something that should either be taken seriously or let alone.

The best time to take it up is when business is good at home and money can be spared for the development of new markets.

One of the “fitments,” as they are termed in England, of bicycles that seem to be coming to the front is the change speed gear. So far the application has been designed and applied to pedal pushed bicycles, but it is probably a case of a thing making its appearance in one direction only preliminary to an adoption under conditions that were not at first looked for by its sponsors. With the coming of the motor bicycle a device of this sort will find much vogue if it will only stand up to the work that it will be called upon to perform.

If a mighty growl does not arise when the news reaches Germany that Prince Henry and one of his personal suite carried home American bicycles, it will be because the German cycle trade has changed its spots or because of fear of committing lese majeste. The German trade has been so rabidly anti-American that the bare thought of any member of the royal household riding, much less paying for, an American made bicycle should prove cause sufficient for seventy-nine katzenjammers and unlimited conviction fits.

The Dubuque (Ia.) Journal has evidently been reading a mail order catalogue. It tells the world that bicycle prices have been cut to nothing; that the “very best” wheels can now be had for \$25, and chainlesses for \$30. All this, it adds, is due to the efforts of the Bicycle Trust to stamp out competition, or, to

use its own language, “the big company is getting ready to knock the head off all its competitors with one fell swoop, and cut prices so low that competition will be out of the question.”

Nowadays so many factors enter into the creation of the successful concern that every excuse exists for the making of an effort to find out just what they are, and in what way they operate. There is no more pregnant statement of fact for the would-be successful man to consider than the one which tells us that the world is with the man who smiles. Human nature is a complex line, but in this direction it is thoroughly consistent; we all like cheerfulness.

Our cousins in England should not grow overconfident because trade in this country has not enjoyed real good health of late. They are disposed to call the kettle blacker than it is, and should bear in mind that while we all pictured the German cycle trade in the last ditch of despair, the Teutons, despite their growls, slipped past both America and England in the race for foreign trade.

There is considerable groping around for an apt designation that will distinguish the man-driven machine from the motor bicycle. “Push cycle” is one expressive, if inelegant, term that we previously remarked, and now comes F. A. Elwell with “motorless cycle.” In this age of “lessnessness” it is not irapt, but it will hardly endure.

While trade in the East has been a trifle backward owing to snow and floods, the country from Buffalo to the Coast has been enjoying remarkably favorable weather. As a result trade is already well advanced. Practically all reports agree that the business is showing a substantial increase over that of last year.

One of the queer things in trade conditions that causes wonder to those who are innocent in either direction is that chronic failers, price cutters and general disturbers of good business conditions can start up again and find sellers to give them new credit and an opportunity to once more cause ructions.

The bicycle trade has passed through parlous times, but the makers and agents who have clung to first class conditions are now reaping the fruits of their hard labors and trying times.



MODEL 74 PRICE \$30.00

Orient Bicycles

KNOWN THE WIDE WORLD OVER.

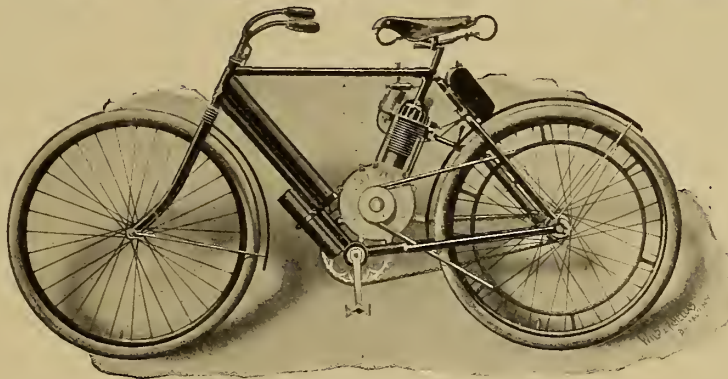
WRITE FOR HANDSOME NEW CATALOGUE

APPLY FOR AGENCY

WALTHAM MFG. COMPANY, WALTHAM, MASS.

THERE ARE MOTOR BICYCLES AND MOTOR BICYCLES.
BUT THERE'S ONLY ONE "AUTO-BI"—THE ORIGINAL THOMAS.

The one that broke World's record, lowering mark for 1 and 5 mile distances previously held by machines of more than twice the rated horse power.



MODEL 4.—ROADSTER AND RACER. PRICE, \$175.

The one which made such a remarkable showing in the Journal Century Run, and triumphed in the New York-Buffalo Endurance Contest in September.

Now made in 3 MODELS as follows:

Model No. 3,	AUTO-BI	Price, \$150
" " 4,		" 175
" " 5,		" 200

DESIGN LATEST.

EFFICIENCY HIGHEST.

PRICE MODERATE.

GUARANTEE SUBSTANTIAL.

AGENTS WANTED.

CATALOGS READY.

WE MAKE
AUTOMOBILES
AS WELL.

"BUFFALO, SR."

Absolutely the best proposition for the money.

Looks Good!

Is Good!

Equipped with Thomas 6-H. P. medium speed motor; reliable transmission.

"BUFFALO, JR." Light Runabout. 3½-H. P. Motor. \$650.

BUFFALO AUTOMOBILE & AUTO-BI COMPANY, Buffalo, New York, U. S. A.

MOTOR DRIVES AGAIN

No Universal System in Sight—Some Faults of Belts and Pulleys.

To those who view the matter from an unprejudiced standpoint the question of the method of transmitting the power from the motor to the road wheel is one that cannot be settled in an offhand nor in an empirical manner. Belts and chains have the lead in the order named, while a notable example of face gearing is being marketed.

What the eventual drive will be there is no prophet in this or any other country with honor enough to give out a dictum that would be acceptable to those having the limited experience of to-day. Many of these latter are of the opinion that the time has not as yet come for the universal adoption of gearing more elaborate than the belt, but even they admit that at its best the belt leaves much to be desired.

With its use the engine pulley rapidly wears smooth, and this is particularly noticeable where the machine is used to any extent on mud roads. The grit gets on the belt and acts as a grinding medium. This is all the more accentuated if much belt dressing is used, as the dressing acts as a binding material to hold the grit down to its work. After a time the effect is noticeable, not only on hills, but on the speed of the machine.

To overcome this pulleys have been made with cross depressions in the groove and with projections to form corrugations, but the effectiveness has soon disappeared. One of the latest attempts is to make the walls of the pulley in wavy lines, with the projections and depressions in one wall oppositely alternating with depressions and projections in the other. It is claimed for this construction that it considerably reduces the chance of belt slippage, the belt being tightly gripped with being pinched into the groove when leaving the pulley.

The Customer who Tinkers.

One of the greatest nuisances that a dealer has to contend with is the buyer of a bicycle who is constantly using a monkey wrench and a screwdriver. When a man is confirmed in this habit it seems to be of little value to warn or advise him to the contrary. It is a pity that it should so be, as many a good bicycle has been ruined by a failure to let well enough alone.

Just what to do with a customer who is never happy unless with a monkey wrench in hand is a problem that has confronted many a dealer, and the ultimate results are generally offset by some sort of a compromise. Other matters come up for diplomacy, but they are usually of a character that require only a display of good natured acumen to adjust.

It is the tinkering owner that gives the

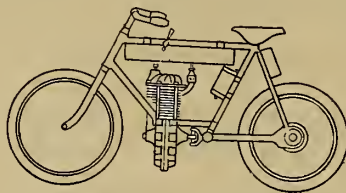
hardest trouble. He is constantly loosening and tightening nuts, and when, as a result, the front wheel crushes its bearings, or the rear wheel slews and the chain mounts the sprockets and twists the frame, then it is only too frequent that the dealer has to come in for a lot of hard language, aimed direct or over his shoulders, against the manufacturer.

With a new customer there is no means of guarding or insuring against trouble from this source, but with an old customer he should gently, but none the less firmly, be taken in hand at the beginning of the season and made to realize that the usual guarantee does not cover, as he is placing himself in the category of "wear and tear."

Here's a Chainless Motor Bicycle.

As showing an attempt to carry out light vehicle practice in motor bicycle construction, the accompanying illustration is interesting. The name of the machine is not known, but it is of French manufacture, and made its appearance in Ghent in 1898.

It will be noted that the motor is placed



transversely with the bicycle frame lines instead of longitudinally. The motor shaft stub is connected by a gimble joint to a connecting shaft, similar to that on chainless bicycles, which drives the rear wheel through bevel gearing.

There seems to be little authentic data as to how the scheme worked out in practice, but it certainly presents some possible novelties in operation and control. Carrying out the vehicle motor position and drive idea, it would be within the range of possibilities to arrange an idle and change speed gear between the gimble joint and the junction of the seat post tube and the rear fork sides.

Changes Name and Incorporates.

The Appeal Cycle Manufacturing Company, Los Angeles, Cal., has changed its title to the Appeal Manufacturing and Jobbing Company, and has been incorporated with a capital stock of \$100,000, fully subscribed by the following directors: L. M. Passmore, Gideon Haynes, B. L. Vickrey, O. A. Vickrey, Los Angeles; Elsie L. Hamrick, Olive, Cal. The purpose of the corporation is to manufacture bicycles, wagons, motorcycles, automobiles, engines, boats, gas and gasoline motors.

Fewer Mail-Order Bicycles.

"Trade looks much brighter here than last year," write Mack & Jenne, Windham, N. Y. "There are not so many mail order bicycles being sold, the demand being for wheels of standard quality."

ROSE HUES FADE

South African not so Enticing as Reports Made Appear—Existing Situation.

Reports of the opening of the South African market, which was to bring with it a renewed and greatly increased demand for bicycles, are gradually losing their rose tints.

"It is rather amusing to hear the reports circulated at home as to the trade which is being done, and the prospects for the future in this place," writes the Cape Town correspondent of an English house in referring to such reports. "We know exactly what is being done, and we can assure you that we have quite enough machines in stock at present to supply all the likely requirements of Johannesburg. We are this day sending thirty-two machines up there. It is all very well for your competitors at home to 'endeavor to ship large quantities of goods,' but we can assure you that even if they ship them to one of the South African ports they are not likely to get them up to Johannesburg, for everything is done by military permit, and no goods can go forward to the Transvaal unless the consignee has applied for and obtained a permit. Then there is the difficulty of dispatching goods, owing to the railways being unable to cope with the civil as well as the military traffic.

"We are afraid that this country, especially the ports, will be flooded with a superfluity of machines, which will be eventually sold by auction to defray cost of storage, duty, etc. This will be a bad thing for the trade of the country, as well as a loss to the individual manufacturer who sends the machines out.

"We in this country have long ago given up the idea that there was going to be a sudden demand for goods for the Transvaal. There never can be a sudden return of the old population, neither can there be a sudden rush of goods up there, for the simple reason that all the railways in the country cannot accommodate the traffic. Even should the war be over shortly, which seems very unlikely, the troops must occupy the country for some considerable time, and will only go home gradually; therefore the people can only go back to Johannesburg gradually. newcomers will have to wait until the old population has returned, and trade will slowly increase as the population grows and the mines get into order.

"You should do what you can to warn manufacturers against sending out machines without definite orders. Doubtless many firms out here will seize the opportunity to attempt to get out machines on consignment, offering alluring prospects of a huge business; the result would be disastrous."

The demand for two speed gears in England can be gauged somewhat by the report from across the pond that one maker alone is working day and night to cope with orders for equipment to pedal driven bicycles.

TOO MANY JOINTS

How Electrical Leakages in the Wiring can be Reduced by Better Designing.

One of the future refinements in motor bicycle construction will be the reduction of the number of joints in the electrical circuits and the parts that go into the makeup. It will probably be a surprise to many to be told that these parts number something over 200 in most motor bicycles, as heretofore made. In a few instances these have been reduced in number, but there is yet room for further reduction and consequent improvement.

As the source of the electrical energy is at the battery, it will first be treated in its relation to effectiveness and things that are overlooked by users.

So far as this country is concerned the practice is to use dry cells connected in series. The number of cells used to make up a battery varies, with different exponents of the art, from two to four, with those having the longest experience advocating the larger number. And this advocacy is pretty well backed up by experienced coil makers.

Probably those using less than four recognize their greater all round value, but the question of design is sometimes a ruling influence, as it cannot be gainsaid that the positioning of four cells is a nice problem in making up a machine on good lines. The fact remains, however, that as cells are now made, with from ten to fourteen amperes and one and a half volts, two or three cells do not give enough voltage, through the coil, for a spark of enough heat units to insure good, all round sparking at the speed and compression under which the small motors work.

With cells connected in series the total amperage remains the same as the average of the cells, while the voltage equals the sum of all the cells. That is, given four cells at twelve amperes and one and a half volts each, the result would be twelve amperes and six volts. The voltage in the secondary circuit, with a good coil, would be from 8,000 to 10,000. From this will be understood the importance of not only good connections, but as few as possible to avoid leakage possibilities.

In the use of dry cells they are placed in a metallic container at the present time, and so long as this practice continues it should be remembered that trouble is possible at the fountain source. It is true that the cells are surrounded by paper covers, but the bottoms are exposed, as well as the pole ends. From these conditions it becomes necessary that perfect insulation shall be provided at both ends of the container. It is also well to carry this insulation around the cells as well.

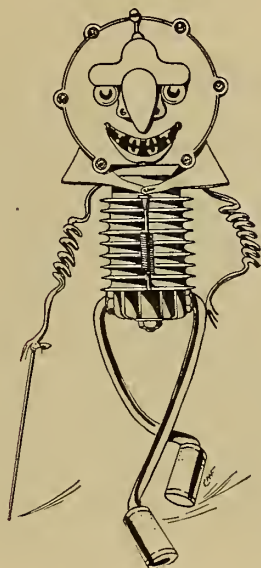
Having established a correct foundation, it must be remembered that the battery has more than the two terminals which lead to the outside. It is a point frequently overlooked that each cell has two terminals that

are important factors. These should be occasionally looked to, that they are in perfect contact with the connecting wires, as trouble will come if all the binding screws are not firmly positioned.

In putting on the connecting wires the ends of the wires should be confined in some arrangement, such as an eyelet or a brass hook, the shank of which is hollow to take in the loose ends. Whatever method is used better results will be had if the wires are mechanically secured or fixed with solder. If solder is used, rosin is the best flux. Acid fluxes must be avoided.

Either from carelessness or lack of knowledge, loose wires are frequently put on the binding posts by wrapping them around the post. Attention has previously been called to the right way and the wrong way of

The Real Thing.



THE GENUINE MOTORMAN AND MOTOR FACE

wrapping. The objections to the loose wire ends are many. If the wires are carried around far enough in looping them the overlap will prevent the binding screw from seating, except at the thickest point. This thick point will be where the wires cross themselves, and the result will be that the current will arc at all other points of the circle and the wire will quickly oxidize, preventing a clear flow of the current.

The method of soldering a loop has a wrong way and a right way in making the loop. Instead of overlaying or wrapping the wires where the end is brought round to the body of the wire, the end should be laid alongside and then soldered in position. The loop thus made is flattened with a hammer by a light, sharp blow. This method of making a loop is crude, however, as the pressure of the binding screw will in time burst the loop, making a split affair that is almost impossible to hold in place, as one leg is sure to spread under the pressure.

At the present time it is too much to expect cells with less parts to the binding posts. However, there is room for improvement in this direction, as the present construction allows the parts, particularly on

the positive pole, to work loose from the jar of the road. As at present made, the negative post comes through the top of the cell and has neither a knurled nut screwing over it or a screw passing into it. This only makes one loose part at this point. The positive pole, or carbon, usually has a screw passing through it, with a washer each side of the carbon and a hexagon nut screwed up against the outer washer to bind the screw in position. In addition there is the wire binding knurled nut.

It will be noted from this that on each cell there are six pieces that can possibly work loose. When motor bicycles come into greater use, if the cell is not in the mean time replaced by a magneto, it can possibly be expected that the poles will be so made that positive and direct connections can be made.

The same conditions that apply to battery connections apply all through the wiring conditions as at present carried out. There are too many screws, washers and sundry pieces at every connecting point, and it is around these groups that centre most of the electrical troubles.

In the earlier machines it would almost seem that the designers had endeavored to create confusion by seeing how many binding posts they could put in and how many parts they could have at each point. The only natural results were the many mysterious short circuits so often referred to by contemporaneous writers.

The twenty-four movable parts at the battery could hardly have been avoided, as there were conditions in connection with the use of dry cells that really had to be accepted. But, in place of taking these conditions fixed by outside influences as a warning, it would seem that the designers were, and many yet are, without originality and simply played a game of follow the leader.

Metzer Gave Them "a Time."

The night of the closing of the Detroit show W. E. Metzger and Seneca Lewis, the promoters of the affair, gave some thirty of the exhibitors the "time of their lives." The invitation was extended to all, and was taken advantage of by about that number. At midnight they boarded a special parlor trolley car which had been engaged, and were whirled to Mount Clements, Mich., some twelve miles distant.

At 2 o'clock a. m. the party sat down to a banquet which last until five. Those who then desired to retire were told to fall into any room they desired, the entire hotel having been leased for the night. When they arose, those who desired were taken aboard ice yachts and given some experiences that made their hand stand on end.

Some half dozen could not wait for this part of the entertainment, and hastened to Detroit to catch the train leaving for Chicago at 8 o'clock. They piled into the Pullman, and berths for six were promptly ordered made up, and this weary half dozen slumbered throughout the day until Chicago was reached.

The Trials of Success.

It has been well said that the successful man, if he has any clear self-knowledge, knows that he is being relentlessly tested, and that the sternest adversity could not more searchingly reveal the quality of his character.

The tests of success, says an exchange, are more searching than those of adversity, because the temptations of prosperity are more subtle and insidious than those of adversity. Of the successful man much more seems to be expected. He is not excused if he makes any fault of judgment or error in any way. He must be on his guard at all times, for he is at all times subject to criticism of those who have been less successful, or of those under him.

A man may be giving his very life in an heroic effort to successfully administer the affairs of a large corporation, on which depends the living of hundreds of laboring men and employees. People at large, when they do think of him, think chiefly of the commanding position he has and the opportunity of enjoyment which his position and income should bring him. The man himself thinks chiefly of the great responsibilities which his position imposes upon him.

Westing Proves his Affection.

G. H. Westing, formerly of Mueller & Westing, Indianapolis, Ind., has set up in business on his own account at 219 Massachusetts avenue, that city. He will make the Pierce his leader, and is so much in love with it that he styles his place the Pierce Cycle Store.

Good Advice, Crisply Expressed.

Here are some urgings of a latter-day philosopher that are worth tucking into a corner of one's brain:

Cultivate certainty.

Dodge every form of the "waver."

Don't have "moods."

Don't mind "every wind that blows"—unless it blows your way. In that case put up you jibsail and all your little balloons and take advantage of such a chance to look about for ideas.

Don't doubt.

Don't droop.

Don't dream.

Don't drift.

If you do any considerable amount of "sifting" let it be to sift right from wrong, that you may cling to that which is good, that which is clean, that which is of good report.

Occupation isn't labor, work isn't toil, when done in the proper spirit; a desire to serve the world usefully, give value received, treat every human creature the way you'd wish to be treated.

Work hard, speak softly, smile when it's common to frown, laugh at trouble, cultivate cheerfulness, do something for your day's record.

Starley Memorial Fails.

The movement in the English trade to create a memorial of J. K. Starley, who perfected, if he did not wholly invent, the rear-driving safety bicycle, has been abandoned. The interest displayed was not sufficiently substantial to carry it through.*

What one Assembler Did.

As illustrating the demand for motor bicycles in England, the following bit of information is interesting.

Last year an assembler of bicycles in London fitted up and sold at \$200 no fewer than fifty machines, and that he did not put out more, he claims, was due to his inability to get deliveries on the particular motor that he used.

This maker fitted motors to customers' own bicycles in a few cases, with one or two reinforcements of the frame and a strengthening of the front forks, but the bulk of his trade was with especially built machines.

The motor bicycle is certainly the cheapest introduction to automobilism—cheapest in the prime cost, and cheapest in the running; and on the ground of economy alone, as well as in the important features of easy means of storing the machine, as compared with a tricycle, it has many adherents.

It is also rather less vibratory than a tricycle, and is faster for the same horse power, partly on account of the smaller weight, but also, more importantly, because of the more direct transmission, with but small loss of power through a belt, on to a single wheel, than by spur and pinion gearing and a differential.

Bars for Motor Bicycles.

The Ideal Plating Co., Boston, is making a specialty of forward extension handlebars. They carry in stock extensions up to 5½ inches, and will make longer ones to order when desired. They are also making a special bar for motor bicycles.

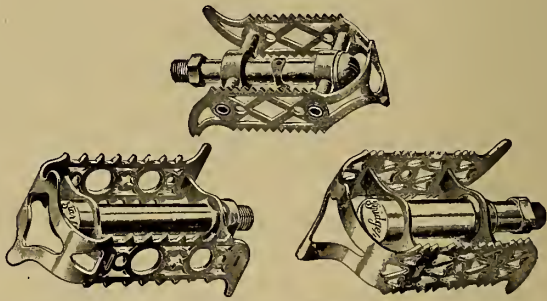
'THE GOODMAN COMPANY,

124 Tribune Building, New York.

Enclosed find \$2.00 for which enter my subscription
to the BICYCLING WORLD for one year, commencing
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Name

Address

★	Star	Bridgeport	Record	★
Record	<p>STAR BRIDGEPORT RECORD</p>  <p>BICYCLE PEDALS.</p> <p>A trial will convince you that B. G. I. PEDALS are <i>by far the best</i> you can buy. Made of the best steel, and carefully inspected. Simple in construction. Perfect alignment of bearings. Standard of excellence in style and finish.</p> <p>USE 1902 MODEL B. G. I. PEDALS.</p> <p>THE BRIDGEPORT GUN IMPLEMENT CO., 313-317 BROADWAY, NEW YORK.</p>			Star
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CASE HARDENING PROCESSES

Means and Materials Employed and Recommended by Mr. Markham.

Hardening the surfaces of articles made of wrought iron and machinery steel is generally termed case hardening. Most machine shops have some means whereby they can harden screws, nuts and similar small articles. Where there are only a limited number of pieces to harden it is customary to heat the work in the blacksmith forge, in a gas jet or in any place where a red heat can be given the piece. When hot sprinkle a little granulated cyanide of potassium, or a mixture of prussiate of potash, sal ammoniac and salt; reheat to a red and plunge in clear cold water. When there are large quantities of work to harden this is an expensive as well as a very unsatisfactory way.

To case harden properly, says E. R. Markham in the American Machinist, we must understand the material of which the article is made and the purpose for which it is to be used, whether it is simply to resist wear or friction, will be obliged to resist sharp or heavy blows, a bending or twisting strain, or do we wish merely to produce surface colors?

We will first consider the case hardening of work that simply needs a hard surface, with nothing else to be taken into consideration. Pack the articles in an iron box made for this purpose, using a mixture of equal parts by measure of granulated rawbone and granulated charcoal mixed thoroughly together. Cover the bottom of the hardening box to a depth of one and a half inches with the mixture, pack a row of work on this, being sure that the articles do not come within one-quarter to one-half inch of each other, or within one inch of the walls of the box. Cover this with the packing to a depth of one-half inch, tamp down, put on another layer, and so continue until the box is filled to within one inch of the top, filling the remaining space with refuse packing material left from previous hardenings, if we have it; if not, fill with charcoal or our packing material. Tamp well, put on the cover and lute with fire clay, to prevent as much as possible the escape of the gases. If the articles are so large that they would not cool below a red heat before reaching the bottom of the bath, they should be wired before putting in the hardening box. We should use iron binding wire sufficiently strong to hold the work when it is worked around in the bath. If the articles are too heavy for wiring, we must devise some other way of holding, either tongs or grappling hooks. If the pieces are small they can be dumped directly from the box into the tank, sifting the work out of the box somewhat slowly, so that the articles will not go into the bath in a body. If the tank is large enough it is a good plan to have wires across from side to side about four inches apart in the horizontal rows,

Have the rows three or four inches apart and do not put the wires underneath each other, but in such a manner that the work will strike the different wires as it passes to the bottom of the tank. In striking these wires the work will be separated and any packing material adhering to it will be loosened by the jar; the work will also be turned over, thus presenting all sides to the cold water as it passes through.

These wires can easily be arranged by taking two pieces of sheet metal a little shorter than the inside length of the tank, drilling holes in them as described in the arrangement of the wires and the wires can be passed through these holes and riveted, thus making a permanent fixture that can be placed in the tank and taken out at will. The distance between the wires can be varied to accommodate the particular kind of work we are to do; they must be far enough



NEW YORK BRANCH: 214-216 WEST 47TH STREET.

apart so that the work cannot lodge on them. Any one troubled by the case hardening being soft in spots will find a remedy in this simple device. Do not have any wires within eight or ten inches of bottom of tank. Have a coarse screen or a piece of sheet metal drilled full of holes somewhat smaller than the pieces we are to harden; block it up about two inches from the bottom to allow a free circulation of water underneath it. This also allows the water to pass through it around the work, and the packing material will pass through it, leaving the water a better chance to get at the work. The water inlet should be at the bottom of the tank and we should have an outlet about two inches from the top to allow the surface water to escape. The cold water coming up from the inlet at the bottom should be turned on before we dump the work, allowing it to run until the work is cold.

In heating the work any form of furnace will do that will give the required heat and maintain it evenly for a sufficient length of time. The covers of the boxes should have several one-quarter inch holes drilled near the centre. After putting the cover in place put pieces of three-sixteenth inch wire

through these down to the bottom of the box, allowing them to stick up an inch above the cover, to enable us to get hold of them with the tongs. When it is thought that the work has been in the fire long enough to heat through draw one of the wires with a long pair of tongs or take an ordinary pair and put some pieces of gas pipe on the legs. If the wires are red the entire length we time from them, and, if not, we wait a few minutes and draw another, and so on until we draw one red the entire length. I consider this the proper method to employ in timing all work in a fire, whether it is to be annealed or case hardened, charging for hardening by the Harveyizing method or when we are pack hardening tool steel. If we time our work from the time we put it in the fire we are uncertain as to the results if the fire is hotter one day than it is another. Some days our fire acts dead, another day lively, so our pot is longer in heating at one time than another; but if we time from the period when our work commences to take carbon we will have results as nearly uniform as it is possible to get, provided we have a uniform heat, which can be gauged quite closely by the eye. Best results can be obtained by use of the pyrometer, although for ordinary work this is not necessary.

After running the proper length of time in the fire, which varies according to the nature of the steel and the purpose for which it is intended (small articles, one-quarter inch or less, which do not require anything but a hard surface, should be run from one to two hours after they are red hot), dump into water. If it is desirable to have them colored somewhat, hold the pot about a foot or eighteen inches above the tank, allowing them to pass this distance through the air before striking the water. If we are hardening small screws with slots for screwdriver, and are hardening simply to keep the screwdriver from tearing the slot, we can use expended bone; that is, bone that has been used once before. It will make the work hard enough for all practical purposes, yet not hard enough to break. If we wish to harden deeper we must run longer. To harden one-sixteenth inch deep it is necessary to run about five hours after the work is red. By running sixteen to twenty hours we can harden to a depth of one-quarter inch. In the case of small articles it is best to use a bone not coarser than what is known as No. 2 granulated raw bone. When we are to run for a long period of time in the oven we should use a coarser grade. The charcoal used in the mixture should, if possible, be of the same sized granules as the bone. The commercial article is much superior to anything we can pound and sift, so that it is policy to buy it. The first cost may seem a little stiff, but if account is taken of the time it takes to grind and sift we will find the article we buy the cheaper.

There are many special preparations used in case hardening, some of which are excellent for special work, while some are good for all kinds of work. When we wish to harden deep in a short space of time it is advisable to use bone black in place of granulated raw bone. Bone black—or animal charcoal, as it is commercially called—is prepared by burning bones in a special furnace. It comes in the form of a powder; it leaves a finer grain in the work hardened, and will make it stronger than if hardened with raw bone.

Another form of bone which gives excellent results is called hydrocarbonated bone, a form of bone black treated with oil, so that it gives off its carbon more readily than either form mentioned before. It is not generally used, but for very nice work it is very satisfactory.

Where Red Tape Rules.

"To ride a bicycle in Vienna," said a cyclist who returned last week from Europe, according to the New York Sun, "you must undertake to be tied up in more yards of municipal red tape than any one would believe city authorities able to manufacture, but the result is that there are so few accidents due to bicycling that the Viennese like the system, and one of them who had visited America and whom I talked with had the impudence to suggest that it would be a mighty good thing to introduce into New York.

"First of all, no one may ride a bicycle without having a certificate of proficiency, and to get this you must undergo a strict examination. Women must be able to mount and dismount on both sides of their wheels. Everybody must show that he can turn corners and must ride in and out between a number of dummies without knocking any of them down. If you can't—no certificate; practice outside the city limits or indoors until you can. If you pass the ordeal then you are photographed by the police. It reminded me of qualifying for the rogues' gallery.

"The photograph and your certificate of proficiency are fitted into a little book containing the rules for cycling in the city. You must carry this book and be prepared to show it on demand. It costs about \$1.25 of our money. If you can't show it—police inquisition and fine. Besides being photographed you must be numbered. When you

discover that, the rogues' gallery impression redoubles in strength. You get the number, a huge brass affair, free. It has to be carried conspicuously on the handlebar of your machine. When numbered, taxed, photographed and passed by the superintendent of police you are free of the streets, so long as you keep the rules. But don't think of scorching. The police keep a sharp lookout, and the penalty is heavy enough to make you sorry if you do."

Table Turned on Crumpler.

Eleven cycle riders have a suit against M. O. Crumpler, of Chattanooga, Tenn., brought in Atlanta. Mr. Crumpler promoted the meet at Chattanooga in the fall of 1897, at which the circuit men were prevented from riding on account of their baggage being held up for the unpaid fare of Little Pete, the circuit followers' mascot. The railroad company lost its suit and \$1,000 damages, and Mr. Crumpler sued the riders in turn for their failure to appear. He refused to postpone the meet or to hold it as advertised when he found that the riders would reach the track later than advertised.

Leander Defeats Walthour.

On the Coliseum track, Atlanta, March 7, George Leander defeated Robert Walthour in a motor paced race of three five-mile heats, for a purse of \$400 and 60 per cent of the gate receipts. Leander won the first and last heats. Five thousand people saw the race. The one-mile professional handicap was won by Lake, Caldwell second and Turville, third.

The Retail Record.

Lanesville, Mass.—Francis Reid, jr., has opened store.

Great Barrington, Mass.—Ernest Collins opened store.

Buffalo N. Y.—George W. Miller; slight damage by fire.

Southampton, N. Y.—Henry N. Clark moved to Reeves building.

Beverly Farms, Mass.—Charles J. Martin has opened store.

Salem, Mass.—Frank E. Wing opened store at 277 Essex street.

Bath, N. Y.—G. N. Curtiss opened store in Hardenbrook building.

Galesburg, Ill.—Walton Mfg. Co., moved to South Chambers street.

Strasburg, Va.—David W. Hupp and Lanek Hottel; new firm.

Utica, N. Y.—W. L. Paekman has opened store at 251 Bleecker street.

Worcester, Mass.—Ware Cycle Company has opened store on North street.

Windham, N. Y.—Mack & Jenne, reopened store and absorb Osborn & Arnold.

Reading, Pa.—Charles T. Heckler will occupy new building, 222 Penn street.

Charlotte, Va.—G. B. Keller purchased interest of partner in Relay Bicycle Co.

Findlay, O.—Harry Bennett will occupy new building east of Blockford building.

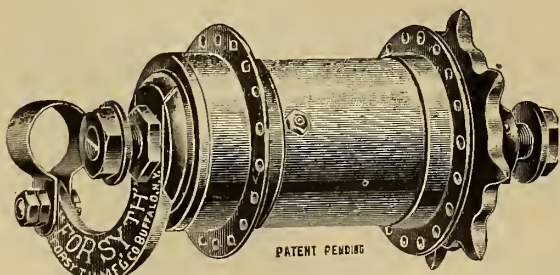
Hilliardville, Conn.—J. P. Ledyard will open store in Brown & Patten Building.

Auburn, Me.—The V. S. Darling Bicycle Company will move, April 1, to 52 Court street.

Buy-Cycle Time is Here

which means that it's time to
make the most of

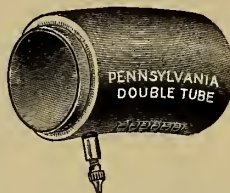
The ADJUSTABLE FORSYTH.



Are you doing so? If not, why not?

FORSYTH MFG. COMPANY, - BUFFALO, N. Y.

Jobbers, Be Wise!

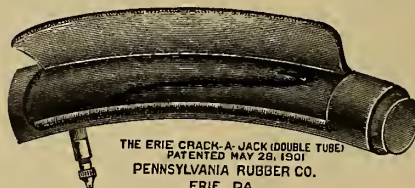


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MAKE MONEY.

STAY WITH THE GOLD MEDAL WINNERS.

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THE ERIE CRACK-A-JACK (DOUBLE TUBE)
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ERIE, PA.

Don't close
until you
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our entire
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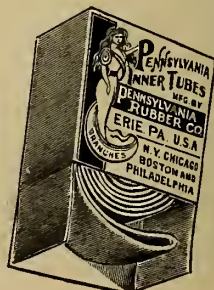
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Rubber Company,
ERIE, PA.**

BRANCHES:

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BOSTON



ELWELL SEEKS INFORMATION

Veteran Tourist is Interested in Motor Bicycles but Desires Further Light.

Editor The Bicycling World:

I am seeking information regarding motor bicycles, and I trust that at least a few of those who are in possession of practical knowledge regarding their use and availability for touring purposes will be willing to let me know in these columns the opinions they have formed regarding them as the result of personal experience. My reasons for desiring this information from others, instead of gaining it by my own personal experience, is because I have little time for experimenting, unless I can have reasonable expectation of good results.

others are no better they can be of little practical use. But I can hardly believe this, for if it were so there would not be so many enterprising firms engaged in their manufacture. Should the motorcycle be able to perform—with a reasonable discount for enthusiasm and business interests—what is claimed for it, it would be a great and distinct advance over the man driven cycle for Continental touring, no matter what its other claims for usefulness may be. In the first place, it would enable one to double the distances possible to be made on the motorless cycle; uninteresting places could be passed by, and an improved itinerary made possible; head winds, more of a factor to be reckoned with in European touring than here, would be robbed of their terrors; the weak man would be put nearly, if not quite, on a level with the strong man as regards ability to cover distances, and, although one

Are motorcycles now on the market that can be depended on to actually "go" even if given reasonable care and attention? Can one, not a mechanical expert, learn how to operate them and keep them in order? Is it a pleasure to ride them, or are the vibration and the position of the rider uncomfortable and tiresome? Is as much physical enjoyment to be derived from a motorcycle as from a motorless bicycle, or does it afford no more exercise than is to be had in an automobile? I should imagine that there might be an opportunity to display judgment and skill in running the motor, easing it on the hills and letting it out on the levels, that would give zest and exercise to the rider—but is this the case? Can they be controlled on long down grades or in the traffic of city streets with safety?

I am confident that I am not the only one that is revolving these questions in his mind

SOME SUGGESTIONS FOR SEASONABLE AND HELPFUL LOCAL ADS.

Did You Ever Hear so Many People Saying:

"I'm going to ride a bicycle again this year. I find that I do not feel half as well as when I was riding regularly a year or two ago."

It means that the bad effects of the "craze" have passed—that people are coming to their senses and realizing the real merit of the bicycle.

It means that more people will buy bicycles and ride bicycles than for several years past. Incidentally, with our line of——— and ——— we are well situated to please all comers.

For many years I have conducted bicycle tours over the continent of Europe, and, although I have also travelled extensively by the usual methods of locomotion, touring by bicycle is far and away the most healthful and enjoyable. The roads of the Old World, as every one is probably well aware, are better built than anywhere else. They are hard and smooth and beautifully graded, and they lead one through most enchanting scenery. Up to now the man driven bicycle furnished the best means for touring over these roads, and the tours I have made a-wheel are the pleasantest spots in my life. For this reason I have read with more than usual interest the advertisements of the various motor cycle makers and the articles on the subject in The Bicycling World and other papers, but I have heard little or nothing from those who use them—if such persons there are. The only motorcycle that I have had an opportunity to experiment with for a very short time did not "go," and if

The Thousands who are Renewing Their Interest in Cycling

are learning that since they left off, bicycles have been not only greatly reduced in price but improved in quality and that many new things have been devised that make cycling more comfortable and enjoyable than ever before. Cushion frames, coaster brakes spring seat posts, etc., are among the number.

Of the improved bicycles, there are few if any that can compare with the———. And the prices—they are suited to all pocket books.

might get well dusted up, he would not be likely to get overheated or overtired, and would arrive at the terminus of the day's run without being fagged out and reeking with perspiration. It would do away with the occasional long, tiresome pulls against winds and grades, which the rider of the motorless wheel cannot always escape, and on fine level stretches there must be a glorious exhilaration in letting the machine run at the rate of twenty miles an hour.

All this sounds most enticing to me, for I have in my mind's eye the splendid highways of France, the grand scenery of the Alps, through whose valleys wind white roads by the shores of the bluest of blue lakes, and the great German route along the Rhine, which extends, level as a floor, through Holland to the sea, where the motor would have the finest of opportunities to show what it can do. But this seems almost too good to be true, and the questions that I would like answered are:

It's "in the Air"

Bicycling is due for a distinct revival.

It will not be a "craze" or a "boom" and people will not ride simply because their neighbors ride but because cycling is a delightful recreation, a charming means of obtaining health-giving outdoor exercise.

Never before was it possible to obtain such splendid values in bicycles for so little money.

Fifty dollars will now buy a better———than \$100 would purchase a few years ago.

And we have cheaper wheels for those who want them.

—there are thousands—and if there are actual riders who could answer them they would find a large and eager audience.

Could I be reasonably certain that the motorcycle is now a practical machine I should be strongly tempted to spend the coming summer in testing its delights on the highways of Europe, and in such case would be pleased to make arrangements for all motorcycle riders who would care to join me on such a tour—there could be no better way of finding out its possibilities for health and pleasure. However, I hardly expect to have this invitation accepted, for, so far as I have personal knowledge, there are but few riders as yet, although many may be created the present spring. But if those who know would give us of their knowledge it would be most gladly received.

FRANK A. ELWELL, Portland, Me.

"How to Drive a Motorcycle." See "Motorcycles and How to Manage Them." \$1. The Goodman Co., Box 649, New York. ***

GRIDIRON OF GOOD ROADS

Bill Introduced to Expend \$20,000,000 and Make New York a Cyclists' Paradise.

By the introduction of the following bill in the New York Senate on Friday, Senator Armstrong gave the much-talked-of \$20,000,000 road improvement scheme the practical turn which it has required.

The bill took the form of an amendment to Article VII of the Constitution, and was referred to the Judiciary Committee. It reads as follows:

"A debt or debts of the State may be authorized by the law for the improvement of highways not within the boundaries of any city or village. Such highways shall be determined under general laws, which shall also provide for the equitable apportionment thereof among the counties. The aggregate of the debts authorized by this section shall not at any one time exceed the sum of \$20,000,000.

"The payment of the annual interest on such debt and the creation of a sinking fund of at least 1 per cent. per annum to discharge the principal at maturity shall be provided by general laws whose force and effect shall not be diminished during the existence of any debt. The Legislature may, by general laws, require the county or town, or both, to pay to the sinking fund the proportionate part of the cost of any such highway within the boundaries of such county or town, and the proportionate part of the interest thereon, but no county shall, at any time and for any highway, be required to pay more than 35 per cent. of the cost of such highway and no town more than 15 per cent. None of the provision of the fourth section of this article shall apply to debts for the improvement of highways hereby authorized."

This action was the outcome of the recent Good Roads convention held at Albany, at which nearly 400 State representatives, including the supervisors of nearly every county, were present to show their approval and interest.

The immediate issue of the bonds by the State is to afford sufficient funds to carry on the work without delay. Ultimately the State will actually pay \$10,000,000, the counties \$7,000,000 and the towns \$3,000,000. If the proposition is passed by the Legislature it is to be submitted to the people in the form of a referendum at a general election.

State Engineer and Surveyor Bond has given the matter careful study, and has drafted a map showing the location and direction of the roads that will gridiron the State in all directions, and that also shows the cities which would be connected by them. The locations of the roads, as proposed by Mr. Bond, are as follows:

First—From a point in Rockland County, near the New Jersey State line, through Rockland and Orange counties to Newburg,

thence to Binghamton, Oswego, Elmira, Corning and Bath, with a road diverging from Binghamton to Auburn, and from Auburn on to Lyons and Rochester, running obliquely in a northerly direction.

Second—From Elmira a branch through Watkins to Bath, Belmont, Little Valley and Mayville, with a loop around Chautauqua Lake, taking in the city of Jamestown.

Third—From Elmira to Rochester, passing through Watkins, Penn Yan and Canandaigua; or, the road running in a northwesterly direction from Bath to Genesee, passing through Batavia and Lockport and thence to Buffalo.

Fourth—From Bath westerly to Belmont, Little Valley, Chautauqua Lake and the city of Jamestown.

Fifth—From Kingston along the Esopus Creek and Delaware River valleys to Norwich, Chenango County; or to be diverted so as to include Delhi, Cooperstown, Richfield Springs and Syracuse or Utica.

Sixth—From Norwich through Ithaca to Watkins and Mayville, or northwesterly to Rochester; also a branch from Cortland to Auburn, Lyons, Rochester, and westerly by way of Albion and Lockport to Niagara Falls, Tonawanda and Buffalo; also a direct line from Little Valley, Cattaraugus County, to Buffalo, and from Mayville to Buffalo.

Seventh—Starting in Westchester County at White Plains, up the east side of the Hudson River, through the counties of Westchester, Putnam and Dutchess, to a point opposite Kingston, passing through the county seats of the last three counties; thence to Kingston; or, if preferred, from Carmel to Newburg, and thence up the west side of the Hudson River, through Kingston to Albany and Troy, with a branch line from a point opposite Catskill, through Hudson to New Lebanon and the Massachusetts State line, at which point the road joins the improved State roads of Massachusetts leading to Pittsfield and through the State; a branch line from this point also running in a northwesterly direction to Troy.

Eighth—From Albany to Troy, through Schenectady, Amsterdam and Fonda, with a branch from Fonda through Johnstown and Gloversville to Lake Pleasant; returning to Fonda a road west from the point through Little Falls, —, Rome and Oneida, and one to Syracuse, with a branch road from Rome, passing through Boonville and Lowville to Watertown, and thence to Alexandria Bay; continuing westward from Syracuse the road would again lead through Auburn, Lyons and Rochester, to Niagara Falls and Buffalo.

Ninth—From Watertown northwesterly through Philadelphia and Antwerp, to Canton, with a branch from Canton to Ogdensburg; from Canton easterly to Malone and Pittsburg, thence south to Elizabeth, the county seat of Essex County; thence along due south through the valley of Bouquet and Schroon rivers to Schroon Lake; thence along the shores of that lake and through the valley of Schroon River to Warrensburg; thence on to Caldwell, at the head of Lake George,

and from there to Glens Falls, Greenwich and Troy.

Tenth—From Glens Falls a southerly branch road to Saratoga Springs, Ballston Spa and Amsterdam, there joining the other system, after taking in the belt of Northern New York from Watertown to Saratoga Springs, together with a comparatively direct line leading from Lowville almost due west to Crown Point, passing through Lewis, Herkimer, Hamilton and Essex counties to Lake Champlain, embracing all of the varieties of beautiful scenery for which the State is noted between the Thousand Islands and the Adirondack region, as well as the beauties of Lake Champlain and Lake George.

Road Building to Honor Jefferson.

The linking together of two localities made memorable by their connection with the author of the Declaration of Independence—Thomas Jefferson's home and the University of Virginia, which he founded—is to be carried out by the construction of the Jefferson Memorial Road.

In connection with this the United States Department of Agriculture, office of Public Road Inquiries, has issued an invitation to a convention to be held at Charlottesville, Va., April 2, 3 and 4.

A good roads special train, carrying 22 engineers and road experts and equipped with 15 carloads of the latest improved road making machinery, will arrive at Charlottesville March 24, and begin the construction of the road, in pursuance of plans heretofore prepared.

On April 2, at 2 p. m., the convention will be called to order by Gen. Fitzhugh Lee, president of the Jefferson Memorial Road Association, and his excellency Gov. A. J. Montague of Virginia will welcome the people in attendance. The convention will then be addressed by the Hon. John W. Daniel and the Hon. Thomas S. Martin, the United States Senators of the State of Virginia. There will be two sessions of the convention on each of the days named above, at which addresses will be made by many distinguished citizens and statesmen of this and other countries. Special invitations have been extended to President Roosevelt and his Cabinet, to the diplomatic representatives of all foreign governments, to the members of the United States Senate and House of Representatives, to the Governors of all States and Territories, to the presidents and general managers of railroads, and to the presidents of universities and colleges.

Coaster Brakes Save Chains.

It has been discovered that since coaster brakes came into use chain breakages have been materially lessened. Rupture of a chain usually occurs by the chain riding the sprocket when travelling at high speed. On the free wheel the chain is stationary usually when running down hill and the high speed strains are not applied so frequently.

As a rule the man who possesses the largest stock of personal hard luck stories is the man who possesses the least business energy, tritely observes White's Sayings.

FIRST MOTOR BICYCLE MEET

London Shows the Way With an Interesting Program—The Results.

What was probably the first exclusively motor bicycle race meet ever held in the world was that of February 22 on the Crystal Palace track, London, England, under the auspices of the Motor Cycling Club. The promoters were favored by genial weather and a good sized attendance. Unfortunately the programme was marred by the fact that a number of machines were unable to compete owing to maliciousness on the part of some one who placed pins in a number of the tires.

Three track events were held, consisting of five-mile scratch races, divided according to horsepower, as given in the catalogues of the makers. The divisions were: One and one-half horsepower and under; not less than one and one-half horsepower nor more than two horsepower, and for motors of more than two horsepower. Pedalling was permitted if desired.

The first event was divided into two heats, E. Dries (Derby motor) beating a field of three; T. B. Andre (Derby motor), second. Time, 10 min. 36 sec. The second heat was won by Tessier (front driving Werner) in 9 min. 18 sec. In the final he ran away from

Dries, and won easily in 9 min. 29 2-5 sec.

The second event was run off all in one heat, the starters being H. W. Stones (Rex 1 3/4 h. p.), L. S. Watson (Chapelle 1 3/4 h. p.), J. H. Dickinson (J. D. 1 3/4 h. p.) and E. T. Arnot (Princeps 1 3/4 h. p.). The Rex led, with the Princeps neck and neck, until the latter had to stop, and the Rex finished alone. Time, 9 min. 40 sec.

Only two competitors fought out the higher powered event—A Westlake (Chapelle, 3 h. p.) and H. Martin (Excelsion, with 2 3/4 h. p. De Dion motor). Martin led from start to finish, Westlake gaining slightly toward the end. Pin troubles had affected the latter's back tire. Martin won in the fastest time of the afternoon, 9 mins. .04 4-5 secs.

The programme was then changed from the track to the grounds, where the second portion of the programme, in the form of open speed and hill climbing contests, was decided.

The selected course, about three-quarters of a mile, started from the road at the rear of the track and wound around the grounds. Seven competitors took part in the event for motors of not more than one and one-half horsepower. E. Dries, on his Derby, had trouble with his belt en route, and had to retire, the other six starters, however, covering the course.

There were four starters in the event for engines over one and one-half horsepower and not exceeding two horsepower, and one

starter for that open to engines over two horsepower. The results of these three events were as follows:

For motor bicycles of 1 1/2 h. p. or under. A. Rivett (Blizzard 1 1/2 h. p. Minerva engine); time, 2 mins. .05 2-5 secs. 2. Bert Yates, 1, (Humber 1 1/2 h. p., chain drive); time, 2 mins. 16 4-5 secs. 3. E. Perman (Excelsion 1 1/2 h. p.); time, 2 mins. 22 secs.

For motors more than 1 1/2 h. p., but not exceeding 2 h. p.—This was won by E. T. Arnot (Princeps 1 3/4 h. p.), whose time was 2 mins. 13 4-5 secs.; 2. H. W. Stones (Rex 1 3/4 h. p.). This rider was disqualified for a technical breach of the rules, his starter overstepping the mark.

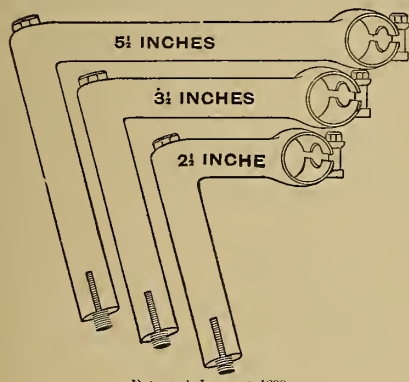
The last event was a ride over for H. Martin (Excelsion 2 3/4 h. p.). His time was 2 min. 16 2-5 secs. It will be noted that the 1 1/2 h. p. machines did exceedingly well.

To Preserve the Enamel.

To prevent rust forming under the enamel of frame tubes, to which chipping and peeling is due, it is recommended that the tubes be heated to the boiling point of water and the enamel applied while the frame is hot. The heating removes any dampness that may exist, and the dampness is what causes the rust.

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We also make bars for Motor Cycles, with re-enforcement so they will stand, with raise or drop of 1 1/2 and 3 inches.

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BRILLIANT or HALO
Gasoline Gas Lamps

for HOME, CHURCH, STORE,
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Thousands of them in daily use justify the claim. Every lamp guaranteed. Average cost of running 100 candle power

ABOUT 15 CENTS A MONTH.

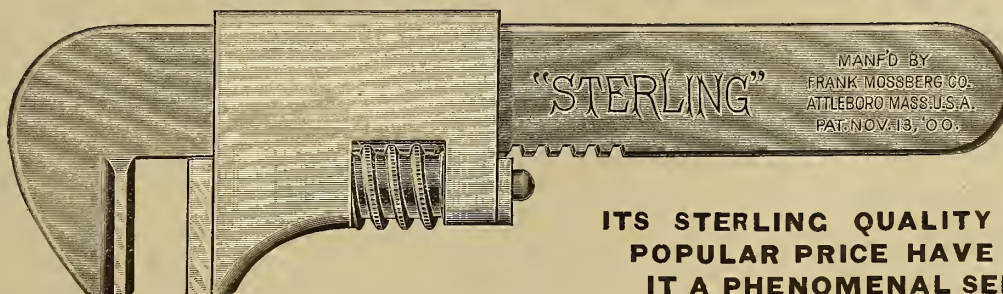
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LEATHER WRENCH CASE.

Length,
5 inches.



(Will take 1 1/4-inch nut.)

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POPULAR PRICE HAVE MADE
IT A PHENOMENAL SELLER.

FRANK MOSSBERG CO., Attleboro, Mass.

Jifoid Chainine Oiline

A r-ounce tube of Jifoid with Needle top, a small bottle of Oiline and a tube of Chainine are all that the bicycle rider needs for repairing tires, lubricating and cleaning his bicycle and chain.



Chainine

IN BRUSH TOP TUBES.

Chainine is a high-grade Chain Lubricant in paste form. Can be readily applied to Chain without soiling the hands.

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IS THE VERY FINEST Quick-Repair Cement.

IT IS ALSO
A RUBBER CEMENT.—It will cement a patch.
A RIM CEMENT.—It will cement a tire to either a wood or metal rim.
A PLUGGING CEMENT.—It will set a plug in a single-tube tire.



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New York City, N. Y.
Rochester, N. Y.
Syracuse, N. Y.
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Automobiles



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It is published for the information
of the average mortal; no dic-
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\$2.00 PER YEAR.
10 CENTS PER COPY.

SAMPLE COPY ON APPLICATION.

The Week's Patents.

694,388. Bicycle Attachment. Robert Kaucher, Rochester, N. Y. Filed June 22, 1901. Serial No. 65,690. (No model.)

Claim—1. A bicycle attachment comprising an upright supporting bar, an essentially triangular shaped frame connected at its forward end to the upper end of said supporting bar, a canopy attached to said frame and a hood composed of two flaps attached to the supporting bar at their front edges and connected to the canopy and frame at their upper edges, substantially as set forth.

694,472. Friction Clutch. John Harrington, Coventry, England. Filed March 28, 1901. Serial No. 10,516. (No model.)

Claim—1. In a clutch, the combination of an inner part, an outer part, rollers introduced between the said inner and outer parts, inclines for the said rollers, a carrier for the said rollers, and radial slots of limited depth in the said carrier adapted to receive the ends of the said rollers, substantially as and for the purpose set forth.

694,539. Seat Post for Bicycles. John England, London Township, and Moses Hutchinson, London, Canada. Filed Nov. 18, 1899. Renewed Jan. 16, 1902. Serial No. 90,055. (No model.)

Claim—In a device of the character described, a receptacle, in the side and end of which an opening and elongated slot respectively are formed, a partition in said receptacle for dividing it into two chambers, a spring bolt formed with a shoulder and in which a socket is formed, one end of which spring bolt projects through the side opening in said receptacle, a coil spring in said receptacle located between said spring bolt and the adjacent face of said receptacle, a pin secured to said spring bolt and extending through the elongated slot in the end of said receptacle, in combination with a bicycle seat post, in the interior face of which a circumferential groove is formed, with which the end of the spring bolt engages, substantially as and for the purpose set forth.

694,567. Frame for Velocipedes. James R. Moore, Newcastle-upon-Tyne, England. Filed April 29, 1901. Serial No. 58,065. (No model.)

Claim.—A frame for velocipedes, comprising a socket for the steering head, a diagonal member carrying the pedal crank axle bracket at its lower end and supporting the seat post at its upper end, and three single tubular members connecting the socket of the steering head with the diagonal member, one of the said three members connecting the top of the socket of the steering head with the lower end of the diagonal member, another connecting the bottom of the socket of the steering head with the top end of the diagonal member, and the third connecting the lower end of the socket of the steering head with the lower end of the diagonal member, the two members connecting the lower end of the socket of the steering head with the diagonal member being provided with sockets through which the member running between the top of the socket of the steering head and the lower end of the diagonal member passes so that it has a certain amount of free longitudinal movement with respect to the other two members, as and for the purpose set forth.

694,638. Valve for Pneumatic Tires. William D. Hart, Bloomfield, N. J., assignor of one-half to Eugene M. Macdonald, Glenridge, N. J. Filed July 12, 1901. Serial No. 68,042. (No model.)

Claim—1. In a valve, a tubular casing threaded at its inner end, a flanged valve plug screwed into the threaded inner end of

the tubular casing and closing the valve by the contact of the flange with the inner end of the casing, an air passageway from the interior of the casing to the flange of the valve plug, a coupling for an air supply pipe, means for connecting the coupling to the outer end of the tubular casing, and a key connection between the coupling and the valve plug, whereby the screwing on and off of the coupling opens and closes the valve, substantially as described.

694,875. Bicycle Saddle. George A. Meighan, Providence, R. I. Filed Oct. 4, 1901. Serial No. 77,585. (No model.)

Claim—1. In a bicycle saddle, the combination, of a saddletree, made in one piece of metal adapted to extend transversely across the saddle post, having an ear projecting upwardly near each extremity thereof, each of which ears is provided with an opening opposite to each other, and an outer extension from the upper portion of each of said ears, and parallel with the openings of the same, said saddletree being also provided with a central transverse groove, a bolt mounted in the ears of said saddletree and provided with a right and left hand screw threaded portion at either end thereof, a circular collar rigidly secured upon the central portion of said bolt and made to fit in said groove of the saddletree, two circular pads made of yielding material, as described, metallic holders for said pads, each having a projecting ear provided with a transverse screw threaded opening to receive the threaded portion of said bolt, aommel arm rigidly secured to said saddletree, with means secured upon said arm for permitting limited forward swing to the said pads, as shown and described.

Slipshod Nickelling.

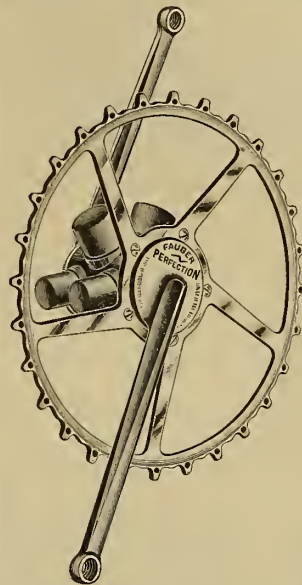
There are very few plating firms which can be relied upon to exercise the extreme care that is necessary to produce the best class of work. The great majority are content to cater for those who will have the cheapest plating and who have no reputation to lose. It is a well known fact that all nickel plating is more or less porous, and in consequence oxidization takes place upon the metal coated, with the result that rust sets in sooner or later, according to the quality of the plating. In the cheap plating establishments the operators rush their work, and immediately they find the solution getting a little out of order they begin to add nickel salts, and so on, until the solution is completely disorganized, when decomposition takes place.

Even though a fairly decent coating has been put on, piece work is so much the rule in shops that its effect is offset by the buffers. In the desire to knock out as many pieces as possible in a day's run the buffers jam the work against the wheel with all the force they are capable of exerting. The result is that in place of buffing they practically scour the surface and remove the nickel coating to an extent that rust sets in. In place of brightening the surface they grind it off.

Son Sues Father and Wins.

An English ex-racing man recently sued his father to recover prizes left at home when shown the door owing to a quarrel. The father claimed that the son left the prizes as recompense for the expense the former had been put to in purchasing a bicycle and paying entrance fees. Judgment was given the son for three-fourths the amount claimed as the value of the prizes.

TRADE MARK

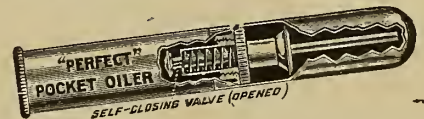
Fauber Perfection Hanger

THE
DIAMOND
SQUARE
CRANK

Unequaled in
any of the
points which
make a Perfect
Hanger

LIGHT
SIMPLE
DURABLE

FAUBER
MFG. CO.
ELGIN, ILL.

"PERFECT"**OILER.**

For High Grade Bicycles. The best and neatest Oiler in the market. DOES NOT LEAK. The "PERFECT" is the only Oiler that regulates the supply of oil to a drop. It is absolutely unequaled. Price, 25 cents each.

We make cheaper oilers, also.

GUSHMAN & DENISON, Mfrs., 240-242 W. 23d St., NEW YORK

**WYOMA
Coaster Brakes.**

UNIVERSAL AND DETACHABLE.

We control following patents:

June 12, Aug. 14, Dec. 25, 1900,

Feb. 19, March 26, April 1, 1901,

covering all features of construction of these brakes. We also control trade-mark "E. Z." and will manufacture all brakes so stamped.

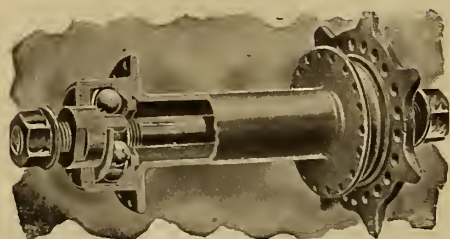
See issue of January 1st for description
and watch our Ad.

Reading Automobile & Gear Co.,

Tenth and Exeter Sts., READING, PA.

CHAMPION HUBS

Write for Complete Description and Prices.



(LIGHT WEIGHT RACING MODEL.)

ALSO REGULAR ROAD HUBS.

Worthy of Their Name.

VULCAN HUBS.

Cheap but Good and Well Worth Their Price

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Selling Agents, C. J. IVEN & CO., Rochester, N. Y.

HIGH GRADE

wheels must have the
best equipments.

There is nothing that gives more value for
the money than the use of the

MORSE TWIN ROLLER CHAIN



NOISELESS IN MUD, WATER OR
DUST AND ALWAYS EASY RUNNING.

The only chain having Frictionless
Rocker Joints. Insist on having the
Morse Twin Roller. Fits regular
sprockets.

Send for Catalogue and
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15 cents per line of seven words, cash with order.

WANTED—Everyone interested in motor bicycles to purchase "Motocycles and How to Manage Them." Contains 126 pages bristling with information. \$1.00 per copy. For sale by The Goodman Co., 154 Nassau St., New York City.

FOR SALE—RIM MACHINERY.

Complete outfit of Cowdrey machinery for making rims and guards. Capacity 300 rims and 70 guards per day. Outfit practically as good as new. A fine opportunity to get a good outfit cheap. H. M. LOUD'S SONS CO., Au Sable, Mich.

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Brass Wire and Rods.

SPECIALTIES to order
MADE OF BRASS.

SCOVILL MFG. CO.

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Depots: 210 Lake St., Chicago.
423 Broome St., New York

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WRITE US FOR PRICES.

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CLEVELAND, OHIO

THE ARMSTRONG "A" CRANK HANGER



is conceded by competent judges to be the most perfect in point of design, mechanical construction, finish and materials used that it is possible to produce. Made in one grade only, the highest. Handsome in appearance; simple in construction; easy and positive adjustment. We make the most complete line of bicycle frame fittings and crank hangers on the market.

Our 1902 prices are low. Write for them.
ARMSTRONG BROS. TOOL CO., Chicago.

ARNOLD, SCHWINN & CO.

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WORLD BICYCLES.

Jobbing Wheels a Specialty.

LARGEST INDEPENDENT MAKERS IN THE COUNTRY.

Upon receipt of 40 cents in stamps we will mail one dozen of the MAGIC as a sample trial to any part of U. S. A. Ask your jobber for it.



THE MAGIC

A COMPLETE REPAIR TOOL FOR ALL
SINGLE TUBE TIRES.

HAS A POINT ONLY $\frac{1}{8}$ IN. DIAMETER.

Bicycle salesmen wanted to handle the MAGIC as a side line.

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IDEAL HANDLE BARS

The Standard Bars of America

Get our new prices on bars and extensions for 1902 and you will be agreeably surprised. Electros for the asking.

IDEAL PLATING CO., 3 Appleton St., Boston, Mass.

THE CROSBY COMPANY,

BUFFALO, N. Y.,

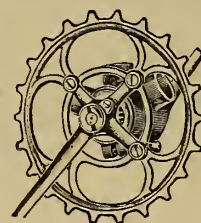
Sheet Metal Stamping.

The Admiral

THE ONLY LAMP WHICH BURNS
EITHER OIL OR GAS.

...Made by...

THE ADMIRAL LAMP CO., - Marysville, Ohio.



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Single,
Tandem,
Triplet,
Quad and
Motor Cycles
ABSOLUTELY THE BEST

Lightest, Nearest Dust Proof, and
Easiest Running Hanger in the World.
Park City Mfg. Co., Inc., Chicago

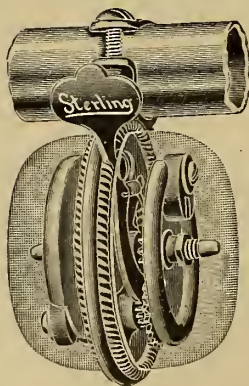
Sterling Continuous

NON-WINDING.

SIMPLE, COMPACT,
DURABLE.

EVERY BELL GUARANTEED.

FOR SALE BY THE WHOLESALE HARDWARE AND
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(PATENT PENDING.)

Ringling Chime.

NON-REVOLVING.

Clear, Loud, Penetrating
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N. N. HILL BRASS CO., Sole
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45 Pearl St. BOSTON.



The Bicycling World

AND MOTOCYCLE REVIEW.

In which is incorporated "The Wheel and Cycling Trade Review" and the "American Cyclist."

Volume XLIV.

New York, U. S. A., Thursday, March 20, 1902.

No. 25

COASTER BRAKES IN COURT

New Departure Begins Proceedings Against Two Rivals—The Patents Involved.

Coaster brake litigation, about which there have been intermittent mutterings for many months, took form last week. The New Departure Mfg. Co. then instituted proceedings for alleged infringement of patents against both the Barwest Coaster Brake Co., of this city, and the Riggs-Spencer Co., of Rochester.

The patents involved are No. 527,571, filed October 3, 1892, and granted October 16, 1894, to G. E. Whitney, and No. 593,688, issued November 16, 1897, to Jacob Redding, of New Castle, Ind. The former covers "a bicycle brake," the other a "coaster hub for cycles."

The chief claim of the Whitney patent is as follows: "In a bicycle the following instrumentality: A pedal shaft, pedals to rotate it, a wheel axle, a wheel drive thereon, a clutch brake composed of a stationary member having a cylindrical friction surface, and a ringlike rotative member having separated ends, normally out of contact with the cylindrical friction of said stationary member, one of said members inclosing the other, and connections between said pedal shaft and hub of said drive wheel to rotate the drive wheel and the ringlike member in its forward direction, and adapted by back pedaling or pressure, as described, to move the ends of the ringlike member with relation to each other, and thereby effect the pressing together of the said cylindrical members to operate as a friction brake."

The Redding patent essentially covers "in a coasting hub for cycles a combination with a supporting shaft of a sleeve rotatively and independently supported on the sprocket sleeve, and means for clutching a sprocket sleeve to the hub."

Frank F. Weston, of the Barwest Coaster Brake Co., smiled amusedly when the subject of the suit was approached.

"Before we went into the business," he said, "we had our coaster brake passed on by the most eminent experts; as a result we do not fear the outcome of any patent litigation that any one anywhere may bring at

any time. We believe we can antedate any patents that may be brought to bear. Protect those who buy or use Barwests? You may wager your last cent that we will, and protect them to the very limit, too."

The Riggs-Spencer Co. have not yet been heard from, but that the proceedings against them will be in any way permitted to interfere with their Cinch coaster brake is scarcely within the realm of possibility.

Trying Patent Cases by Jury.

Aside from other litigations, the New Departure Manufacturing Company is just now concerned in a case involving a point that is of great moment to all engaged in manufacture of any sort—the right of juries to try cases involving patents.

The suit grows out of proceedings brought against the Willis Park Row Bicycle Company, of New York, for alleged infringement of a bell patent by Tobias Miller and Lewis F. Whitman. Willis, it appears sold a New Departure bell involving the alleged infringement, the push button detail being the feature in point. The New Departure people stepped in and conducted the defense.

The plaintiffs demanded trial by jury and obtained the verdict, Judge Lacombe, of the United States Circuit Court, District of New York, before whom the case was tried, remarking that this was the second instance in seventeen years in which such proceedings had been tried by jury. The case has been carried to the Court of Appeals, and will be stubbornly fought.

Its importance is manifest. To leave to juries the settlement of the technical and intricate mechanisms involved in patents is mightily like miscarriage of justice.

To Protect Their Trade Mark.

"3 in 1" and "Big 4" have finally locked horns, and it is now up to the courts to decide. In other words, the G. W. Cole Company have instituted proceedings against the American Cement and Oil Company, the Excelsior Supply Company and George T. Robie, all of Chicago, for infringement of the "3 in 1" trademark, "Big 4" constituting the alleged infringement. The Cole Company have already successfully prosecuted several similar actions, and with New York decisions to aid them are sanguine of obtaining the injunction which they seek.

TOLEDO FACTORY FALLS

Believed That Jar of Passing Trains Responsible for Peculiar Accident.

A peculiar accident occurred at Toledo, O., last Saturday, when a part of the four-story plant of the Toledo Metal Wheel Company collapsed and fell to the ground, covering the nearby railroad tracks. The building was comparatively new, having been erected a year ago last summer.

The walls up to the top of the second story were 18 inches thick and above that line 12 inches. The section which gave way was 60 feet by 30 feet, and fell without a moment's warning. It looked as though the structure had been cut squarely in two, that portion of the building left standing showing a clear cut line of division.

A peculiar feature of the affair was the fact that there was no mortar clinging to the bricks which fell to the ground. This leads building experts to the supposition that the vibration caused by passing trains, during the construction of the plant, prevented the settling of the mortar. It is also said that there was an insufficient amount of cement in the mortar.

There was no one in the building at the time, and, fortunately, no one was near enough to be struck by the falling bricks. A passenger train had passed only a few minutes before the collapse.

Millions for Good Roads.

On Monday a bill appropriating \$100,000,000 for the construction of good roads throughout the United States was introduced in the House by Representative Otey, of Virginia. The money is designed to be apportioned among the various States.

Houk Comes Over.

George W. Houk, of Green & Houk, London, arrived in New York on Tuesday. As the man who helped make the Morrow coaster brake famous abroad his visit at this time points to developments of some sort.

SIGNS OF REVIVAL

Indications That the Renewal of Interest is Wholesome and Far-Reaching.

Evidence pointing to a wholesome renewal of interest in cycling continues to accumulate. H. B. Fullerton, the Long Island Railroad man, who was a big figure in this part of the country when cycling was a "craze," is one of those who shares the general opinion.

"I can't prove it, and don't care if any one believes it or not, but it is my firm belief anyway, that golf had as much as anything else to do with the decline of cycling," he said in the intense manner which is his characteristic, the while shaking his shock of silvered hair.

"But golf!" and there was a tone of disgust in his voice. "Golf has gone all to pieces and is 'done for.' The people went at it as Americans go at everything—with a mad rush, and now they've dropped it and are looking for something else. Cycling will reclaim a good number of them, and it will be a good thing for them, too. Most of my acquaintances are elderly folk, and in the two or three years they've spent fooling with golf they have aged from five to ten years. Yes, sir, they look from five to ten years older than they did, and a lot of them know it. They are now able to appreciate the bicycle for what it is—they realize how much good it did them, and that it affords the sort of exercise and recreation they require, and they are going back to it, and this time not merely because cycling is a fad, but because it is a benefit to them."

Elliott Mason, the manager of the Columbia branch, in Warren street, and who has long had the trade of the substantial men of downtown New York, also reports the return of many influential backsliders.

One of them, a member of the Cotton Exchange, who lives in New Jersey, evinced a curious turn of mind. He had not ridden since 1898, but, intending to begin again, he wanted a wheel exactly like his old one. Investigation revealed to Mason that the old wheel was an 1896 model, with high twenty-six inch frame, steel rims, heavy tires and chain, and in every way unlike the models of this year. The cotton broker was told of the progress that had been made, but he could not be talked out of his idea. His old bicycle had suited him, and he wanted one just like it. The wheel had to be specially made up at the factory, but he paid the price and got it. He said he proposed to begin anew where he left off, and if he got educated up to modern models he would buy one later on.

Louis Geyler, who, although no longer identified with the cycle trade, still retains his interest in cycling, and who is captain of the Century Wheelmen of Philadelphia, is in New York this week. He reports a revival of interest in the Quaker City that can be felt. Thomas Hare, ex-president of the club,

who recently returned from the South, also brought back stories of the surprising number of bicycles in use by the sojourners in the Florida resorts. He happened to remark the fact to H. B. Hart, Philadelphia's veteran dealer, and Hart was able to relate how the influence of Florida was making itself felt in the East. But a few days before he had sold two bicycles to a wealthy Philadelphian who had been wintering at Palm Beach and had had his interest renewed by the number of bicycles in use there.

Quakers Bestir Themselves.

While possibly not as active as of yore, the Associated Cycling Clubs of Philadelphia are still alive, and with \$753.24 in the treasury. At its annual meeting—its fifteenth—last week, there was a show of real interest in its affairs and of desire to again "do something." Thirteen clubs were represented and five newspapers had reporters present. Even the veterans, H. B. Hart and R. D. Garden, put in an appearance. These were the officers elected: President, Thomas Hare, Century Wheelmen; vice-president, H. C. Hochstadter, Americus Wheelmen; treasurer, J. A. L. Carson, Pennsylvania Bicycle Club; secretary, Joseph Estoclet, delegate-at-large; Executive Committee, J. N. Reeve, Columbia Photographic Society Wheelmen; R. Herold, delegate-at-large, and Louis Geyler, Century Wheelmen.

A letter was read from the president of the L. A. W. suggesting that the Philadelphians take charge of the league meet, which is to be held in Atlantic City. But the Philadelphians are disposed to discover reasons why the suggestion should be adopted.

Brooklyn Asks a Million.

One more of the many signs that the bicycle is gradually becoming "itself again" developed at the last meeting of the Associated Cycling Clubs of Long Island. Resolutions were passed asking that of the \$2,000,000 to be apportioned for highway improvement in Greater New-York, \$1,000,000 be set aside for the improvement of Brooklyn's streets. It is pointed out that while the Borough of Manhattan has but one mile of cobblestones the Borough of Churches and Baby Carriages has 226 miles of them. While the modest resolution will scarcely prevail it will serve several purposes and help convince not a few people that "the voice of the bicycle is abroad in the land."

Keeping the Grass Green.

As was expected would prove the case, the New York Park Department has refused the Metropole Cycle Club's application to hold a coasting contest on Riverside Drive. The Park Commissioner fears it would establish an undesirable precedent, and work injury to the drive; he fears, presumably, that the spectators might tread on the sacred grass. The contest will, however, be held on May 10 on another hill in the vicinity of the city.

TRICKS WITH CATALOGS

Queer Tactics Resorted to by Jobbers and the Trouble That Follows.

"Of course, there are tricks in all trades, but I doubt if in any trade there are more of them than there is in the jobbing business," remarked the manager of a considerable manufacturing establishment.

"Kicks? Why, the outside world has no idea of the number and variety of them the average manufacturer has to contend with, the most consistent kickers are the very people whose own skirts are not unsoiled, and the queerest part of it is that some of them are people in all sorts of places trying to get jobbers' prices, we have our hands full trying to discriminate between the false and the true and keeping all sides in good humor.

"Here's a case in point: Here are two catalogues that come from Denver. They are identical except in the matter of covers. One is issued by a fairly large jobber, the other by a smaller firm, which the Western trade claims is merely a retail house. The other jobbers are onto the trick, and we've had a flood of protests against our quoting the firm in question. The trick? Why, the jobber has simply given a number of his catalogues to the retail house, and the latter have had it bound up into a cover bearing their name. Why should one house desire to thus aid a competitor in the same town? You may search me! I suppose the jobber can't get quotations on certain goods, and the retailers are standing in and playing the stool pigeon, or else the jobber believes he may control a few more orders by having two strings to his bow.

"It is not the first case of the sort, by any means. It happened in New England last year, and again in the West. In the latter case, the situation that arose was sidesplittingly funny. We received an elaborate catalogue from a comparatively small concern, and marvelled at their progressiveness. They were recognized as jobbers, however, and we quoted them. In due course we received the stiffest sort of protest from a big St. Louis jobber. The latter maintained that the other parties were not jobbers, and that we had no business quoting them. We promptly investigated, and what do you suppose we learned? That the St. Louis people had furnished copies of their catalogue to the very house against which they had protested, and the latter had, of course, bound them up in a cover of their own. The catalogues were identical; only the covers differed.

"There are some queer goings on in this world, and this exchange of catalogues is among the number."

"Defects (in motorcycles) and How to Remedy Them." See "Motorcycles and How to Manage Them." \$1. The Goodman Co., Box 649, New York. ***

BLAKE SPEAKS OUT

Boston Jobber Facts Accusers—Talks of men who "Live in Glass Houses."

E. P. Blake, of the Boston jobbing house, the E. P. Blake Company, was in New York on Monday of this week. While here he threw considerable light on the strained situations that exist in New England jobbing circles, and in which the trade generally is considerably interested.

It is no longer a secret that the Blake Company is the member of the New England jobbing association which was charged with selling to the so-called retail pool. Report had it that the Blake people fell into a trap that had been prepared for them, and the wonder was whether the association would take action in the matter.

"When that story got abroad and we found that there were manufacturers disposed to believe it," Mr. Blake said, with great earnestness, "I caused a meeting of the association to be called. I wanted to face the gentlemen who had been so free with their accusations. Although the president did not appear, the meeting was held last week. I waited patiently for some one to say something concerning the charges against us, but not a word was said until I myself brought up the subject. I denied and deny that I sold or caused to be sold anything either directly or indirectly to the retail pool, and invited any one to bring evidence to that effect. None was brought, but I don't mind telling you what that meeting did develop. It did develop that Brown & Wales had not only sold goods to the retail pool, but bought of them as well. The Brown & Wales representative admitted it."

"May we quote you as saying so?" interjected the Bicycling World man.

"Certainly," responded Mr. Blake. "It's true, and every man at the meeting knows it is true."

"The so-called trap into which we were said to have fallen amounted to just this," he went on. "We received an order for two coaster brakes from a dealer in Braintree, Mass. It afterward developed that he was a member of the retail pool. This we had no means of knowing and did not suspect, as the goods were ordered delivered, and were delivered, to a well known hardware house in Boston to be included in a shipment they were making to the Braintree man. As the membership of the pool is not public property, and as the pool is trying to buy goods in all sorts of roundabout ways, it is hard to guard against such 'traps.' But I repeat that intentionally we have never directly or indirectly made a sale to them, and we have convinced all the manufacturers whose goods we handle of the fact."

"The whole thing was inspired by jeal-

ousy of our success, and by people who live in glass houses."

"Will the jobbers' association take any action in the Brown & Wales matter?" was asked.

"The association will hold another meeting," Mr. Blake replied, in a tone that was fraught with significance.

What the Census Shows.

As partly showing the rise and fall of a boom the preliminary figures of the Census Office as they apply to the cycle industry are interesting, if not valuable.

As the boom had pretty well spent itself by 1900, the figures do not therefore show the height of the boom; the fact that the census returns prove there were as many as 312 establishments (not repair shops) devoted to the manufacture of bicycles at the end of that year is the most surprising feature of the report, which follows:

	1900.	1890.	Increase.
Number of establishments.....	312	27	285
Capital	\$29,783,659	\$2,058,072	\$27,725,587
Wage earners, average number.....	17,525	1,797	15,728
Total wages	\$8,189,817	\$982,014	\$7,207,803
Miscellaneous expenses.....	\$2,252,604	\$242,018	\$2,010,586
Cost of materials used.....	\$16,792,051	\$718,848	\$16,073,203
Value of products, including custom work and repairing.....	\$31,915,908	\$2,568,326	\$29,347,582

ELECTRIC BICYCLE COMING?

The much prophesied electric bicycle is now well within the realm of probabilities. It is no longer a secret that the Sherman Cycle Co., of Chicago, actually has one under its wing, and is considerably enthused over it.

The bicycle is driven by an electric motor, of course, which is fed by four small storage batteries, which are suspended from the frame tube; the motor is positioned at the bottom bracket. It is a remarkably eye-pleasing machine, differing little in appearance from the motorless cycle. It is controlled by the brake lever and also by the weight of the rider; when he seats himself contact is established, when he dismounts or raises himself from the saddle, the circuit is immediately broken.

New York's Newest Jobbers.

Baker & Cramer is the style of a new firm which has established itself in the Pierce branch at 89 Chambers street, this city. The members of the firm are Fred A. Baker and M. E. L. Cramer, both of whom have been identified with the Pierce interests for a number of years. They have taken over the Pierce retail business, and will also job both bicycles and sundries.

Signs of a Shortage.

Renewed interest in cycling, together with the rush in the steel market, as predicted a short time ago in The Bicycling World, is already making itself felt. Some of the makers of parts and fittings who are not up to or ahead of deliveries on contracts are beginning to grow anxious.

MOTOR BICYCLE TEST

Endurance Run From Boston to New York Undertaken—Some of the Plans.

What should prove an emphatic fillip to the motor bicycle interests has been undertaken by the Metropole Cycling Club of this city, an endurance run from Boston to New York.

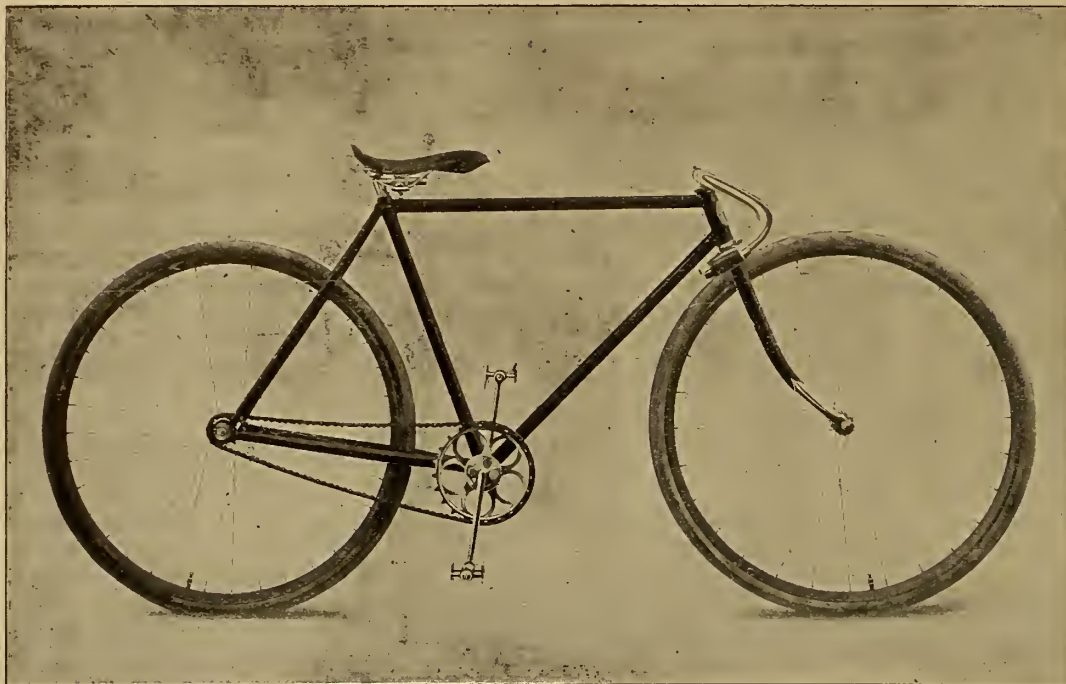
The event has already been set for July 4 and 5 next, and this committee named to conduct the affair: W. R. Pitman, chairman; E. L. Ferguson, secretary, and George W. Sherman, Arthur L. Atkins and Charles E. Miller.

It is probable that a Boston club will be

invited to share in the management of the run, but beyond the chief features no details have been definitely arraigned. The route, however, certainly will be laid through Worcester, Springfield, Hartford, Meriden, New Haven and Bridgeport, making the course, roughly about 250 miles. The start will be made in Boston early on the morning of the 4th, and it is expected that the run will terminate in New York early the following evening. The night of the 4th probably will be spent either in Springfield, Hartford or New Britain.

In a general way, the rules governing automobile endurance runs will be followed. The bicycles will be graded in classes according to horse power, but the awards, probably gold, silver and bronze medals, will be based not on average speeds but on a scale of points. Thus, all who reach the several "controls" or checking stations within the specified time limits will score the maximum of 100 points, those outside the limit 30, 60, or more minutes, will be scaled down according to their periods of tardiness. In the automobile runs of the sort the competitors who failed to reach the controls within the time limit were not scored at all, but were checked as "missing," when as a matter of fact they "got there," a little late perhaps, but "still in the ring," and ready for the next days journey.

It is estimated that there will be anywhere from 25 to 100 starters in the run which certainly is calculated to create and leave a widening trail of motor bicycle enthusiasm and demand.



IT WAS A
National

LIKE THIS

THAT FENN RODE
WHEN HE MADE THE
5 MILE WORLD'S UN-
PACED COMPETITION
RECORD, 10-33 2-5. ::



WE HAVE
NUMEROUS "GOOD THINGS"
FOR 1902.

National Cycle Mfg. Co.
BAY CITY, MICH.

A poor tire will make the highest grade machine a
veritable "Ice Wagon."

FISK TIRES

are to the Bicycle and Automobile what the best
movement is to a watch.

THEY ARE THE BEST.

MAKE NO MISTAKE, BUT HAVE YOUR MACHINE EQUIPPED WITH THEM.

FISK RUBBER COMPANY, Chicopee Falls, Mass.

BRANCHES:

BOSTON,
604 Atlantic Ave.

SPRINGFIELD,
40 Dwight St.

NEW YORK,
83 Chambers St.

PHILADELPHIA,
916 Arch St.

SYRACUSE,
423 So. Clinton St.

BUFFALO,
28 W. Genesee St.

DETROIT,
252 Jefferson Ave.

CHICAGO,
54 State St.

SAN FRANCISCO,
114 Second St.

THE BICYCLING WORLD

FOUNDED 1877
and MOTORCYCLE REVIEW

In which is Incorporated
"The Wheel" and the "American Cyclist."

Published Every Thursday

By

THE GOODMAN COMPANY,

123-125 Tribune Building.

(154 Nassau Street)

NEW YORK, N. Y.

TELEPHONE, 2652 JOHN.

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Invariably in Advance.

Postage stamps will be accepted in payment for subscriptions, but not for advertisements. Checks, Drafts and Money Orders should be made payable to THE GOODMAN COMPANY.

Entered as second-class matter at the New York, N. Y., Post Office, September, 1900.

General Agents: The American News Co., New York City and its branches.

Change of advertisements is not guaranteed unless copy therefor is in hand on SATURDAY preceding the date of publication.

Members of the trade are invited and are at all times welcome to make our office their headquarters while in New York; our facilities and information will be at their command.

To Facilitate Matters Our Patrons Should

Address us at P. O. Box 649.

NEW YORK, MARCH 20, 1902.

Reaching the Rural Buyers.

It will be well if manufacturers do not overlook or minimize the small towns and communities in their campaigns for business.

Of course the suggestion is far from new, but it loses none of its force because of the fact.

It is the small places that have been the backbone of the mail order business and enabled a few of the gushing liars to annually sell a hundred thousand or more of their be-adjectived and malodorous stuff.

Aware that to directly reach such places entails items of expense that are not justified by the results, we have several times suggested as a way out that the agent in a particular town be allotted a certain sphere of surrounding territory and be urged to build up a corps of sub-agents in the nearby hamlets and cross roads—"curbstone agents" or "farmyard agents," if you please, but agents, nevertheless, who can account for many thousands of bicycles in the course of a twelvemonth, and who stand for and must

advocate the high grade article as opposed to the shoddy stuff.

The mail order people dangle the agency bait continuously, and urge their rural agents to get rich by "doing" their fellows, that is, by selling the \$12 mail order bicycles for as much more as they can get for it. It is a fair assumption, then, that if the "farmyard sub-agent" is assured of a clean profit of \$3, \$4 or \$5 on a reputable bicycle, he is likely to shout for it and spread the high grade idea.

One of the most successful makers in the trade scored heavily by devoting his main effort to the small towns in the West and South, which most of his competitors considered "not worth going after," while this year another manufacturer is working on about the lines we suggest and have several times suggested. He is giving influential agents territory within a ten-mile radius, with power to appoint sub-agents. The fact that he added a motor bicycle to his line influenced this particular maker in reaching a decision. He realized that few agents would carry a stock of the high priced machines; a sample for their own use is all they can reasonably be expected to keep on hand, but with a comparatively large agent nearby, with a stock on hand, the moment a sale is in sight and while the purchaser's enthusiasm is high, the smaller agent is able to get the necessary bicycle within an hour or two, and thus "strike while the iron is hot."

While this policy has not had the test of time, we are assured that it is already making itself felt and is of splendid promise. It certainly seems grounded on common logic and ought to succeed.

Lapses of Catalogs.

One of the things that impresses the recipient of latter day bicycle catalogues is the almost prevailing dull, dead sameness that marks them. To the person who elects to look into a catalogue for points that shall aid in determining what to buy, whether that person is already a cyclist or a convert, there is a woeful dearth of information or argument tending to arouse interest or enthusiasm.

Too many makers seem to think that everybody knows all about bicycles in general and about their works in particular. No greater error was ever committed, and should they take the trouble to inquire, they would find that even those who are supposed to be fairly familiar with details are often at a loss to tell some of the good points of well known makes.

Admitting this condition to be true, and it must be admitted by those who care to recognize facts as they are, what wonder is it that many manufacturers and dealers complain that catalogues fail to accomplish the results for which they were designed. In place of being a help, the catalogue that has a few introductory sentences and then jumps into raw details, is only a detriment, not merely to the maker, but to the dealer, who must have some missionary work done for him.

That this remissness is not universal is to the credit of some makers, who are notable exceptions to these strictures, and it can be said for these same that, while they are not always the largest makers, they are of the class whose business never retrogrades and whose popularity constantly increases, the popularity of their product constantly widening like the waves made by casting a stone in a mill pond.

Let it be "Motorless."

If "chainless" is sufficient to distinguish the bevel geared bicycle from the chain geared one, why is not "motorless bicycle" an apt and convenient designation of both the chain and the chainless from the motor driven machine?

This is one form in which the question is put by one who appreciates the need of a designation of the sort. That it is strongly put, none can doubt.

For ourselves, we accept the term. Henceforth and until someone advances something better, it is "motor bicycle" and "motorless bicycle" in all that the Bicycling World may have to say of either or both.

Why not Millions for Roads?

While at first blush the legislative bill which would create a fund of \$20,000,000 for road improvement in this State and the Congressional measure which would have the National Government distribute \$100,000,000 for the improvement of roads in all States suggest staggering expenditures, they are mere trifles when compared with the sums appropriated for the improvement of waterways.

In this State alone, the Legislature is considering a bill setting aside some \$40,000,000 for canal improvement, while the money spent on rivers and harbors—some of them rivers and harbors by Congressional courtesy only—must run well into the billions.

If "the greatest good to the greatest number" is the root of Republican government,

It is not asking too much of Congress to disburse a few millions or billions for the highways that are in greatest use by far the greatest number—the common roads.

Hypnotism of Credit Men.

It has been frequently remarked that credits are much more rigorously scrutinized of late years than was the case in the early days of the industry. It might be added that an improvement was badly needed, but that is another story.

The fact remains, however, that even now there are times when very bad judgment is used in extending credit to applicants.

That is particularly true of the early season, when the trade undergoes a remarkable expansion. New people come in or old ones who have been in retirement for a while, and, added to the all the year around dealers, swell the ranks to enormous proportions.

We have in mind one very aggravated case. A young man in a good sized town decided to set up as a dealer. He had been a repair man, was well known to local wheelmen, and was, as he thought, adequately equipped for his new task. He attended a local show at a large city near by, with the avowed purpose of purchasing goods with which to stock his store, which he had already rented.

He had no capital, no commercial standing of any kind. He was honest, however, and bore a good reputation. Upon these two facts he staked his venture and won out. The exhibiting jobbers were perfectly willing to sell him goods, and he met scarcely a refusal. To be sure, most of the selling firms took the precaution of consigning goods. That was their anchor to windward.

The result was just what might have been expected. The spring trade was spoiled by bad weather, and summer came and found a long list of much overdue bills which could not possibly be met. The youth was willing to turn over the unsold goods to their real owners, but at this point the landlord stepped in with a claim for several months' rent. This took precedence over the consignment claims, and the upshot was a sheriff's sale, the proceeds of which paid the rent and left a very little money over for the other creditors. The matter was made worse by the failure of the latter to take the most ordinary precautions to safeguard their interests.

They could have bought in the greater part of their goods for the proverbial song had they instructed their lawyers to do so. But,

after finding that they came in after the landlord, they threw up their hands and the stock went for a fraction of its value.

Such injudicious selling methods have a twofold effect—they hurt the legitimate dealers, as well as the offending jobbers.

Why the League Lags.

It really begins to appear that the League of American Wheelmen does not deserve support.

The persistency with which the officials keep hidden the few lights that burn or let slip the few opportunities to show a light, make for such a regrettable opinion.

Take but two recent instances: (1) The selection of Atlantic City as the place for the annual meet, and (2) the appointment of the National Committees.

These were matters of fairly general interest. Few papers in the country but would

"We enclose our subscription for The Bicycling World. We confess we had overlooked the matter, otherwise our renewal would have been forwarded more promptly.

"We hope there are many more years of success before The Bicycling World. We feel that a journal so worth should be encouraged by the trade."

SUPPLEE HARDWARE COMPANY,
Philadelphia, Pa.

have given space to the news. It is fairly safe to say that, given it, the Associated Press would have placed the matter on the wire and spread it broadcast throughout the country.

As it was, the news was permitted merely to leak out in unauthenticated dribbles, and has appeared probably in less than a dozen papers, when a hundred dozen might have used it.

It is possible that some day light may dawn on some of those in authority; the world is not made up of long distance mind readers, and that what the League needs as much as anything else is publicity, and the more of it the better. This is, we fear, the most that can be hoped for and hope, as we all know, is a mighty slender peg.

It may be urged that with the League presidency located in a town akin to Podunk, little is to be expected. But the fact is that the League headquarters in New York also might as well be transferred to Rockville, Conn., for all the good it does or all the publicity it obtains for the organization. It is so notoriously unprolific and such a notorious seat of know-nothing, that the metropolitan reporters have long since ceased to waste time in visiting it.

Revenge in Sight.

In the window of a prominent Broadway furnishing store appears a bunch of golf sticks, placarded with the announcement that they are the last the store will sell. They are going out of the golf business, and these sticks are offered at clearing prices.

It is not easy to say just how much golf had to do with the decline of the pastime of cycling, but in the minds of many dyed-in-the-wool riders there will always lurk a resentment against that ancient and honorable game. It was its fortune to come into fashion in this country just when cycling, having reached its culmination, was beginning to decline. The "fashionable set," with its host of would-be fashionables, forsook one for the other, and golf boomed even as cycling had done just before.

But time evens all things, and even golf is on the down grade. There are signs of it everywhere; he who runs may read, and, reading, digest. By a coincidence that may or may not be significant, cycling appears to be about due for a revival, and there will be little disposition to bewail the fact.

Real Cause of Yankee Smiles.

It is about time to cry "halt" and "enough" to the free advertisements of American methods and machines that has become so customary in this country. The French and Germans do not make half the noise about the superiority of American standards and goods. The noise only draws the attention of the public from home products, and does the trade no good. Do those employers, the public press and trade papers who so persistently belittle British workmen and decry their products, realize the trap they have fallen into? The 'cute Yankee is laughing in his sleeve at the immense advertisement thus freely given, but he does not believe himself in the decadence of British trade and the wane of commercial supremacy.—The Cycle Trader.

The 'cute Yankee is doing nothing of the sort. Ever anxious to himself learn, he marvels at the ostrichlike Englishman or English papers whose patriotism or know-it-allism inspires them to close their eyes to the progression of the rest of the world, and who sniff or scoff at their more liberal fellows who believe that Britons, like the rest of mankind, but "live to learn."

That good old motto, "Make hay while the sun shines," doesn't mean that you are to remain idle when it is cloudy—then is the time to prepare for the harvest.



MODEL 74 PRICE \$30.00

Orient Bicycles

KNOWN THE WIDE WORLD OVER.

WRITE FOR HANDSOME NEW CATALOGUE

APPLY FOR AGENCY

WALTHAM MFG. COMPANY, WALTHAM, MASS.

HERE ARE TWO LEADERS FOR 1902

which attracted much attention at the Chicago Automobile Show.

"Buffalo, Sr." AUTOMOBILE.



Model 7. Price, \$800.

**Especially designed for
PROFESSIONAL MEN,
BUSINESS MEN,
and FAMILIES.**

EITHER OF THEM

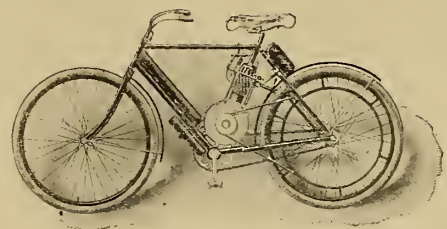
**FIT
FOR
A
KING.**

SEND FOR CATALOG.

AGENTS.

We give you exclusive territory, absolute protection, complete guaranty and Prompt Delivery.

"Auto-Bi" MOTOR BICYCLE.



Model 4. Price, \$175.

This has $2\frac{1}{2}$ I. H. P. Motor and is belt driven, which is the FAVORED TRANSMISSION FOR MOTOR CYCLES.

WE USE E. R. THOMAS MOTORS ONLY, THEY ARE MOST EFFICIENT.

BUFFALO AUTOMOBILE & AUTO-BI COMPANY, 1200 Niagara Street, Buffalo, N. Y.

Howell Appoints Committees.

President Howell, of the League of American Wheelmen, has appointed the following National Committees:

Membership—O. H. Hammond, Torrington, Conn.; F. N. Stevens, Manchester, N. H.; Dr. O. Shepard Barnum, Los Angeles, Cal.

Rights and Privileges—Joseph B. Thompson, No. 80 Broadway, New York; George A. Perkins, Boston, Mass.; George L. Cook, Providence, R. I.

Rules and Regulations—Herbert W. Knight, Prudential Building, Newark, N. J.; Aaron Wolfson, Boston, Mass.; George Lang, Jr., St. Louis, Mo.

Highway Improvement—Charles T. Harrison, Road Inquiry Department, Washington,

The Loop Looped at Last.

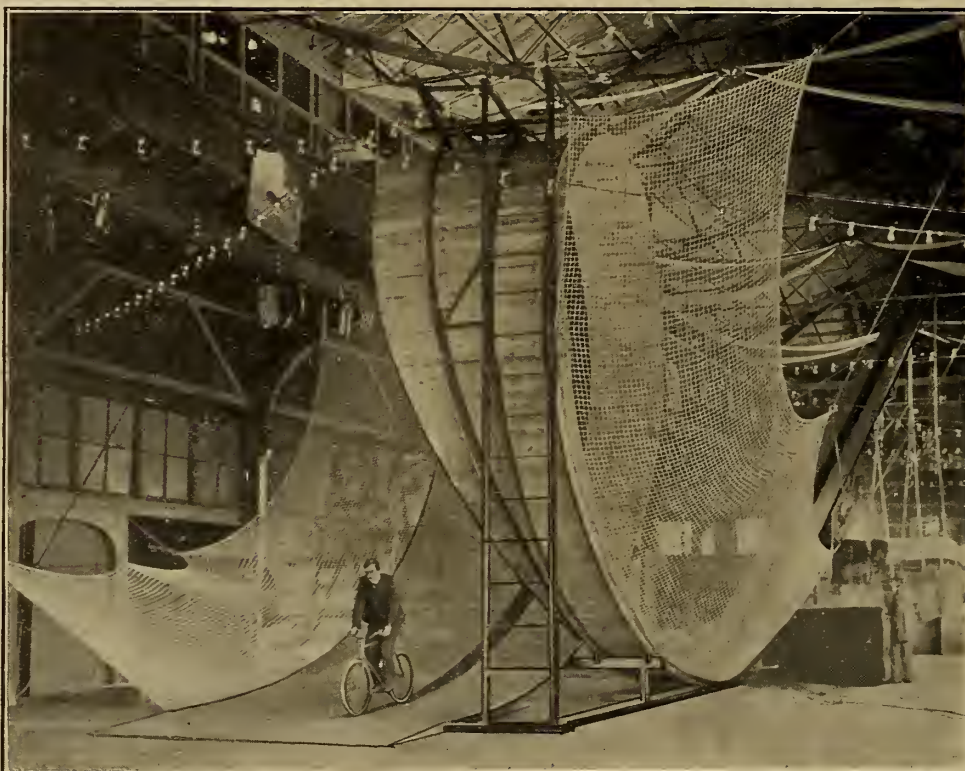
Of all the feats performed on a bicycle, it is safe to say none are more thrilling than that of looping the loop. Several attempts have been made with more or less accidental results, but the feat was finally successfully accomplished on Saturday last at Coney Island, making the loop, a total distance of 200 feet, in 62.5 seconds.

The bicyclist was Robert B. Vandervoort, who first succeeded last December in carrying out the results of his previous studies. In his successful ride last Saturday he rode in his ordinary street clothes on a specially built machine weighing 65 pounds. The machine has steel rims, pneumatic tires and is without pedals, chain or brake, but has foot

Case Hardening of Tools.

When case hardening tools whose office it is to cut metal, it is always best to use for a packing mixture equal parts of charred leather and charcoal, remarks an authority on case hardening. The kernels should be fine and about the same size if possible, to keep them from separating, as if there was much difference the finer would sift to the bottom.

Leather gives a stronger, tougher effect than bone, it being practically free from phosphorus, while bone contains quite a percentage. The presence of phosphorus in steel makes it brittle. Yet for most purposes, where there are no cutting edges, bone is a very satisfactory carbonizing agent to use



VANDERVOORT COMPLETING THE LOOP.

D. C.; Horatio S. Earle, Detroit, Mich.; Charles T. Knipp, Elmira, N. Y.; Walter M. Meserole, Brooklyn, N. Y.; Theodore F. Myler, Pittsburg, Pa.

Transportation—Burley B. Ayres, Chicago Athletic Club, Chicago, Ill.

Local Organization—Ellis L. Howland, care of "The Standard," New Bedford, Mass.; Dr. W. D. Kempton, Cincinnati, Ohio; J. O. Tattersall, Trenton, N. J.; P. W. Westlake, Bridgeport, Conn.; W. H. Chubb, Cleveland, Ohio.

It is absolutely necessary, in order to further the interests of self-contained bicycles, that every part of a motor bicycle should be made of the best material, and equal merit be used in its assembling. This assuredly cannot be done at the price that some are even now predicting. The warning conveyed by the cheap bicycle and its defunct makers should not be forgotten.

rests at the position of the usual crank shaft.

At its highest end the incline is 38 feet above the floor. The inclined surface is 100 feet long. The loop has a vertical diameter of 21 feet 4 inches, but reckoning from the lowest level of the inclined surface to the highest point on the inner surface of the loop the distance is 24 feet. The loop has a horizontal diameter of 18 feet.

The riding surface is three feet wide at its narrowest point, where the loop begins, and 12 feet wide at the end of the loop. A black stripe a foot wide serves to guide the rider in his head-over-heels trip.

A rope arranged high enough to catch his handle bar and run through pulleys with a graded resistance helped to stop Vandervoort.

As indicating how the motor bicycle is catching on in England, it is reported that a rider on Liverpool's famous boulevard passed four machines of this kind in less than that many miles. This at the first of the season, too!

in connection with machinery steel and is much cheaper than leather.

When using either bone or leather, mix with an equal amount—by measure—of granulated charcoal. Being well mixed, the particles of charcoal keep the kernels of bone or leather from adhering to each other and forming a solid mass when heated. Then, again, the charcoal is an excellent conductor of heat, conveying it through the hardening box much more quickly than would be the case were it not used.

When hardening small pieces that do not need carbonizing more than one-thirty-second of an inch deep it is best to use No. 2 granulated raw bone; pieces that require a very deep hardened section need a coarser grade, as they must be run longer in the fire.

In case hardening bicycle cones, where it is necessary to carbonize quite deeply, it is best to pack with No. 3 bone and charcoal, equal parts, or, better yet, with two parts raw bone, two parts charcoal and one part bone black or animal charcoal.

THE TRADING EVIL

Here's a Dealer who Cites an Instance to Prove it not as bad as Painted.

"So the Philadelphia dealers think they have settled the 'trading evil' once and for all, do they?" remarked a tradesman to the *Bicycling World* man. "Well, maybe they have, but I doubt it."

"The thing has been tried often before, but, like Hamlet's ghost, it will not down. For one reason, it is an evil of too long standing. Ever since there was a bicycle there has been trading, and unless I miss my guess there will be as long as manufacturers build, dealers sell and riders buy the two-wheeler."

"Then, again, it is not altogether an evil," he went on. "Perhaps if it were it would be easier to put an end to it. But it has its good as well as its bad side, and the former makes everlastingly for its continuance."

"Now, just let me illustrate my meaning by relating an actual occurrence. I have a customer who has purchased a great many wheels from me, and I hope to sell him still more in the future. One of the machines in his 'stable' is a drop frame machine which is owned and used by his young daughter. It is a chain machine, with coaster brake, of a good make—desirable in every way. Excellent care has been taken of it, and the finish shows scarcely any wear."

"In a conversation with the daughter a few weeks ago I learned that she wanted a new wheel. She had heard so much about the combination of chainless, cushion frame, coaster brake, that nothing would do but that she must have one. As you may imagine, this suited me to a T, and I expatiated on the merits of these devices, setting forth their up-to-dateness, etc."

"The upshot of it was that she asked me how much I would allow her for the old machine. Now, of course I would rather have made an outright sale of the new one. But a moment's reflection convinced me that it was foolish to try to make such a sale. The old machine had to be disposed of, and there was no one in the family to give it to. It had cost \$40 only a year and a half before, and, as I said, it was in most excellent condition. Neither my customer nor his daughter could sell it. Yet it would have been absurd to suppose that its owner would let it rot in an attic."

"So, after thinking it over carefully, I said I would allow \$20 for it in trade for such a machine as was wanted, listing at \$80, or a cash difference of \$60."

"Now, I calculate that I can sell that old machine for \$20—perhaps a trifle more—without any trouble. I know several people who will jump at it, and I doubt if it will remain in my hands a week after I get it. I contend, therefore, that it is good business. In fact, I only wish there was a lot more of such trade in sight."

"Suppose I had tried the Philadelphia way,

what would I have gained? Nothing. I might have endangered the sale, for \$80 is a lot of money even for a well-to-do man to put out for a bicycle, especially when \$40 had been paid only a short time ago. But suppose I had risked this, and told my customer that if he purchased the new machine I would try to sell the old one for him—what would I have gained? A small commission if I had sold it. If it had remained undisposed of, my customer would have been dissatisfied and thought I was not treating him right."

"Of course, there is much to be said for the Philadelphia side of the case. Trading-in has wrecked many a concern that would otherwise have been prosperous. But it was where the matter was handled unwisely, where too many machines were taken in, the prices allowed were too great, or the ma-



NEW YORK BRANCH: 214-216 WEST 47TH STREET.

chines themselves were not easy to sell again. In such cases trouble was certain to follow."

"But I contend, and always will, that a little trading, done on the right basis and looked after properly, does no harm. On the contrary, it helps business and keeps a dealer in touch with customers who might otherwise become lukewarm."

Girder Frames.

English manufacturers continue to cast about for frame designs. One of the latest is the "girder." The regulation diamond frame is added to by running a tube from the upper part of the lower head lug to a point on the seat post about six inches above the hanger, and from here down to the bridge of the rear forks.

Good Lamp Made Better.]

That grand little gas lamp, the Columbia, has been made even better than ever, a new and non-cloggable burner having been applied to it. Incidentally, its makers, the Hine-Watts Company, report that its sale goes steadily on.

ONE YEAR'S ADVANCE

Thh Marked and Rapid but Little Appreciated Improvement In Motor Bicycles.

One of the true wonders of to-day is the marked advance in motor bicycle design and construction that has taken place within one year, along with the equally increasing demand and interest. While at that time they were not repulsive, it is putting it somewhat mildly to say they were not pleasing to the eye. In the interim there have been very radical improvements, both in design and construction features.

While the contention is not here made that the present ruling position of the motor is any more a final standard than the positions that preceded it, there are few to dispute that it does not offer a more attractive appearance than did earlier attempts. Another feature that has come about in this short space of time is that the necessary adjuncts have been disposed of in an equally improved manner. It is possible that the motor bicycle will never offer the æsthetic outline of its earlier brothers, still no one will dispute but that it is yet capable of changes which will tend to this end.

Unlike the methods that were pursued in the construction of the high bicycles and the safety, the American manufacturers of motor bicycles are striking out on distinctive lines rather than following those offered by the earlier European manufacturers. In this the home makers are distinctly scoring against their foreign brethren, as the American type presents to the eye a motor bicycle per se, while the prevailing foreign type has all the appearance and carries all the earmarks of just what it is—a bicycle with a motor hung on it.

No small contributing cause for this effect in this country was that our earlier attempts were along the same lines of assembling the two essentials, and these attempts met with the open criticism that this conjunction would not suit. From this criticism, no less forceable than well meant, the manufacturers planned to get away, with the pleasing result that has become standard for this year, at least.

Taking one consideration with another, the manufacturers have much with which to congratulate themselves, and the riders of this country should be thankful that they will have offered them motor bicycles far in advance of those made in any other part of the world. The full significance of this will appeal to those who have watched the columns of *The Bicycling World* and noted the crudities that are being built and sold on the other side of the herring pond, there being but one exception to this criticism, and that is the motor bicycle of the make which can be fairly said to have started the present movement.

COILS AND CLIMBING

Two Motor Bicycle Experts Talk Interestingly on Those Momentous Subjects.

Two men prominently identified with the designing and selling of motor bicycles were recently discussing matters relative to their favorite in the presence of a *Bicycling World* man, and brought out two points that are not as generally understood as they might be.

Said the designer: "In my earlier experiments one of the things that puzzled me was the difference in power that I would notice when using the same motor, but trying different coils. At first I very naturally attributed these specific differences in power to the make of the coil, but further trials convinced me that this was not wholly so, as different coils of the same make and from one lot showed the same peculiarity.

"After fairly exhaustive tests I found that the matter narrowed itself down to the ability of the coil to do the work for which it was made. Carrying on my investigations I found that the fault came from the coil not delivering a good hot spark in time to propagate the flame in the combustion chamber at the compression point for which the spark controller was set. That is, there was a lagging in the coil, which did not seem to saturate and give off as it should at the time of the make and break.

"At times this could be overcome by giving a longer contact, at the expense of the battery, but as a whole this was of course undesirable, as it was only a makeshift and extravagant. Probably the real fault was in the condenser which was either of insufficient capacity or else faultily made."

"Well, I have noticed that same thing," said the salesman, "but of course left the working out of the matter to our factory end, reporting my observations as they came to me. Once, however, I did run up against it, on a new sample machine sent me, and as I was then travelling that section of the country in which the coil maker had his headquarters I did not bother the factory, but took the coil to the maker.

"At first, probably from misunderstanding who I was, he tried to show me that it was all my fault, but as soon as I explained my position he exchanged coils. He promised to let me know what the real trouble was. We have both been pretty busy since, at least I have, and can pretty well guess that he has, so that the thing was not followed up by me and has probably been forgotten by him.

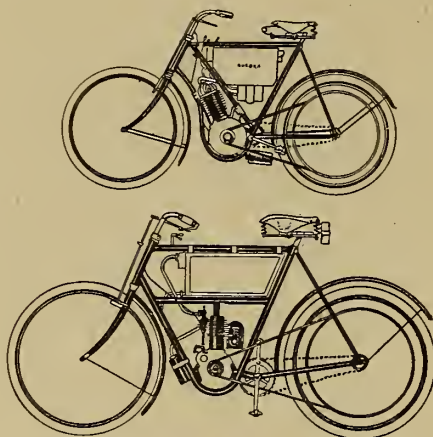
"For the moment I may have resented his first play in trying to show that it was up to me, but a moment's thought drove that idea out of my head just because of my own experiences in that line with owners of motor bicycles.

"I could go out and sell watches and know that if the thing stopped and examination showed that the hair spring had broken, the buyer would not try to fix it unless he was a watch repairer. If he was a dealer he

would place it in the hands of a competent workman. Yet the hair spring of a watch is a hawser compared with the wire used in the secondary winding of a coil. This wire is not much larger than a human hair.

"I have run across men who, in spite of this delicacy of construction, when they have had something go wrong with their spark—and the home office has told me of others—and because they failed to find it elsewhere, when in all likelihood it was the battery or else a broken porcelain, would turn on the poor, in-offensive coil and take it apart. Now, in place of going at it as if they were operating on the human eye, which is hardly more sensitive than a coil, they tackled it as if they were ripping a single tube tire off a rim.

"When I remembered these things my first resentment at that coil manufacturer melted away, and I felt more like apologizing than damning. Of course, a coil may go wrong from no careless cause, just as any other



SOME RECENT BRITISH DESIGNS.

manufactured article may do, but not one in a thousand would come in this category. If a maker gets a coil to fix he don't try to push coil, condenser and filling out through one end of the case by pushing on them at the other end with any old blunt thing that may just come to hand. No, in place of such foolishness he puts the coil in an oven and melts out the wax on or other filler and then removes the parts as gently as possible.

"However, I have wandered away from the thing that was in my mind at the beginning of this talk, and while it has nothing to do with spark coils, the question of the varying power of motors suggested it to me.

"As you know, the make of motor bicycle that I represented last year came to be pretty well known, and made a few records during its season, yet no pretense was made of equipping it with a great big motor. In spite of its being small enough to handle readily it was capable of good work and could climb some pretty tough hills. And it is this hill-climbing that I had in mind.

"I had a pretty good territory to cover; good in the sense that I could occasionally take a side trip to some of my customers, after they got their machine, and give them further pointers or go over those I gave them when I showed them my sample.

"With few exceptions I found them getting along pretty well, except on one point, and that was hill climbing. I would find them lying down on the very hills that I had climbed when I sold them, and they would come back at me by saying my machine was special. This was just the thing I was looking for, as my sample was regular and the real fault was in the handling without understanding or with insufficient reasoning.

"There is just one fundamental rule to remember, and that is, there is no use in allowing the motor to run faster than the relative speed of it and the rear wheel. That is, there is neither sense nor reason in letting the motor race away from its work. If the speed at which the machine has been travelling is too great for the grade that is being taken, then if belt drive is being used, the belt starts slipping, as the extra load comes on it until eventually the machine stops altogether, although the motor may keep on running. It is obvious that there is no value in running the motor beyond the point at which it will deliver its work, and to tighten the belt the minute it begins to slip does not pick up the rear wheel and does kill the motor.

"There is just one way to climb a hill, and that is to keep the motor and the rear wheel so exactly in time that every bit of power developed by the motor is being carried to the road wheel. To do this, all that is necessary on the part of the rider is to watch matters, and when he finds a lagging cut down the speed of the motor when there will be a noticeable picking up of the bicycle in its running. Unless the hill is particularly steep and rough it will be found that the motor can then be let out again until another shutting down period comes. By carrying out this advice of give and take my customers found there were few hills which could not be negotiated.

"Remember that the bicycle is the governing factor, and that the motor must be kept at a speed point which is always constant with the rear wheels; don't try to keep the with the rear wheel; don't try to keep the can run."

It Made a Big Difference.

A striking example of the ease with which a cycle wheel mounted barrow can be pushed, even when fully loaded, has been noticed by an observant cyclist. Two lads belonging to local tradesmen were pushing their respective barrows along a heavy suburban thoroughfare. One lad had a barrow mounted on cycle wheels and solid rubber tires, and the other a barrow with clumsy wooden wheels and iron tires, and the way the former bounced over the hard ridges and ruts served as an object lesson in the utility of the cycle wheel, while the lad with the iron tired wheels struggled and floundered about in his efforts to keep the barrow moving. It is rather singular that cycle wheels have not been more widely used on tradesmen's hand barrows, as they are much lighter, quite as strong, and make the draught of the vehicle much easier, he adds.

RACING

Two hundred miles, on a motor bicycle without stopping was tried at the Crystal Palace track, London, February 19, by J. Van Hooydonk on a Phoenix machine. A cold, raw morning heralded the start, but in spite of the uninviting temperature conditions a crowd of fair dimensions lined the track when the start was made at a little after 10 o'clock.

The first ten miles were covered in 24:21; fifty miles in 2:02:04, and 100 miles in 4:14:13. Everything looked favorable for a finish of the ride when at 105 miles a pin loosened in the motor and put an end to the attempt. The distance covered, however, is probably the longest track event for a motor bicycle yet carried out.

The following are the times:

Miles.	Total. H.M.S.	Ten Mile Times.
10.....	24.21	24.21
20.....	48.06	23.45
30.....	1:12.38	24.32
40.....	1:37.01	24.23
50.....	2:02.04	25.03
60.....	2:27.52	25.48
70.....	2:53.16	25.24
80.....	3:18.48	25.32
90.....	3:46.47	27.59
100.....	4:14.13	27.26

From this table it will be seen that the steadiness in running was most noteworthy, the average time for each mile of the hundred miles being 2 min. 32½ secs., while the difference between the fastest ten miles and the slowest ten miles was at the rate of 25 2-5 secs. per mile.

At the Coliseum track, Atlanta, March 11, Cadwell outclassed Hunter in a five mile, motor paced, heat race, best two in three. The first heat Cadwell won by a lap and a half, in 8.46 3-5. The second heat was Cadwell's from the beginning, but in the first lap of the fifth mile, after having gained two laps and a half, Cadwell ran into his motor and sustained a very hard fall. The time of the second heat, four miles and one lap, was 6.40. In a pursuit race between Mallory and Roberts the former won after riding a mile and a half and a lap in 2.38. A half-mile professional race was run in two preliminary heats and two finals. The finals resulted as follows: Lawson first, Turville second, winning first and second money; Fields first, and Walthour second, winning third and fourth money. The time of the finals was 1.03 4-5 and 1.05.

At the annual meeting of the Intercollegiate Bicycle Racing Association in this city on Saturday last, the tandem race, which has been a fixture, was wisely discontinued. The executive committee was empowered to substitute another race at its discretion. Messrs. Butts, of Yale, and Fitch, of Columbia, were appointed a special committee to make arrangements for the spring meet.

Officers for the coming year were elected as follows: J. R. Gentry, Yale, president; J. C. Gilpin, University of Pennsylvania, treas-

urer; E. A. Thurber, Columbia, secretary; executive committee, H. G. Wells, Wesleyan; O. G. Butts, Yale; J. K. Fitch, Columbia; J. C. Gilpin, University of Pennsylvania.

Lake defeated Hadfield in two straight heats at the Atlanta Coliseum, March 17. He rode splendidly, winning the first heat in 8.15 and the second in 9.06 2-5, both by narrow margins. The distance was five miles, motor paced. Leander rode an exhibition paced mile in 1.34 2-5. Rutz defeated Gus Lawson in the first and third heats of a mile heat race. The heats were run in 2.18 3-5, 2.20 2-5 and 2.18 1-5. Rutz won by inches only. R. G. Bennet rode an exhibition mile in 1.31 1-5 on a motor bicycle.

Emile Bonhours, the old-timer and most consistent of middle distance riders, has accepted Will C. Stinson's challenge, and the two will ride the first paced match on the new Buffalo Velodrome, Paris, on Easter Sunday, over a distance of 10 or 15 miles, with motorcycle pacing.

The three-lap track, once considered ideal, is literally going by the boards. The Charles River track, Boston, is the latest to succumb. Its asphaltum surface is to be torn up and replaced by a board track, either four or six laps to the mile.

John Lawson, of Minneapolis, known throughout the country as the "Terrible Swede," died at St. Joseph's Hospital, Milwaukee, March 14, of pneumonia. He was twenty-nine years of age.

The Retail Record.

Hartford, Conn.—L. H. Elmer succeeds Alexander and Elmer.

Worcester, Mass.—Frank S. Clark will open shop in O. Berggren's store.

St. Johnsbury, Vt.—Henry Couchaine, fire loss, covered by insurance.

Pittston, Pa.—Bechtold succeeds Schussler & Bechtold.

Leslie, Mich.—Arthur Wheaton, jeweller, added bicycle shop.

Ottawa, Ont.—W. H. Fligg, assigned; A. P. Mutchmore, assignee.

Northampton, Mass.—Tidd, Bridges & Co., petitioners in bankruptcy.

Alpena, Mich.—Broad succeeds Lewis & Broad.

Proctorsville, Vt.—William Livermore succeeds Charles Hager.

Meadville, Pa.—J. C. Roha Mfg. Co. has added retail bicycles.

So. Norwalk, Conn.—Frederick W. Kemper, moved to new store.

Manchester, Conn.—Harry E. Fay opened store in Buckland block.

Rochester, N. Y.—Thomas Morgan, 139 Clinton avenue north, slight fire damage.

Nine times out of ten when a person gets poor on account of his advertising it's because he does poor advertising.—Printers' Ink.

Pierce Cycles

FOR 1902 In Front



FRANK KRAMER, riding the Pierce Racer, won the Professional Championship of the United States for 1901. He has ridden the Pierce Racer for three seasons. In 1899 he won the Amateur Championship, and in 1900 was the next to the winner of the Professional Championship.

MR. KRAMER SAYS:

"The Pierce Racer suits me exactly, and I can win with it."

If Mr. Kramer can win the highest honors on the "Pierce" it surely must be good enough for anyone and good enough to "push."

The George N. Pierce Co.

BUFFALO
DENVER

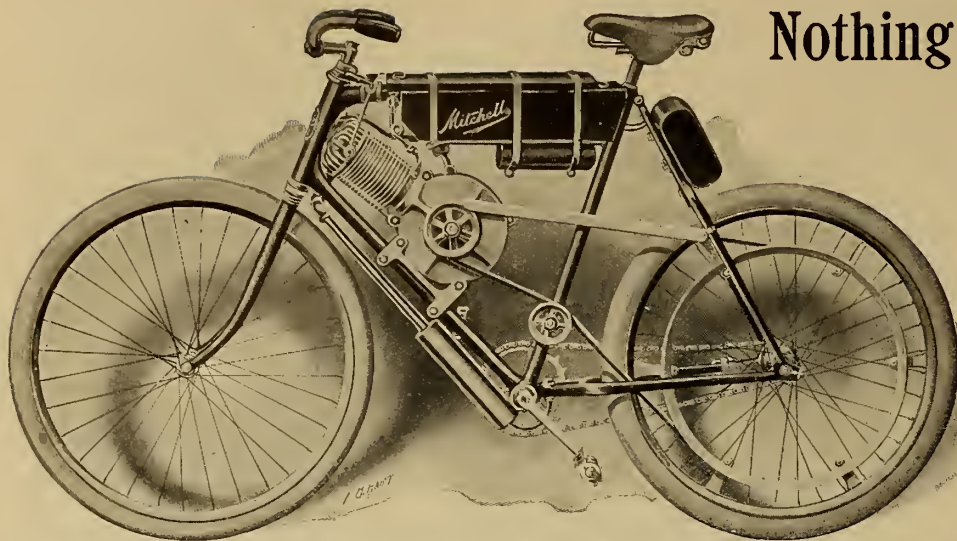
NEW YORK
SAN JOSE

Nothing Freakish in the Design

OF THE

Mitchell Motor Bicycle.

THE PROOF OF THE PUDDING, Etc.



Mr. F. I. Carter, our energetic Salt Lake City agent, thought at one time that all motor cycles were alike, and it was only by working our stenographer overtime we were able to induce him to try a Mitchell.

Salt Lake City, Utah, Feb. 22, 1902

WISCONSIN WHEEL WORKS, Racine Junction, Wis.

GENTLEMEN:—Every day during the past week we have used our new Mitchell Motor Cycle on the streets of Salt lake with splendid success. The machine is meeting our every requirement it is reliable, speedy, of easy control and handles all our grades without an effort.

As a means of advertising the Mitchell line and my own business it has a value greater than its listed price and, as a matter of fact, it is the best medium we have ever used.

Other Motor Cycles have come and gone but the Mitchell is here to stay and we treated our citizens to a genuine surprise when we brought out the Mitchell and it proved itself a goer. We would not do without the machine, for several times its price, if we could not get another.

Yours very truly, F. I. CARTER.

The Mitchell Motor Bicycle takes the traveling man where he wants to go at small expense. Mr. Hofmeister purchased his machine last October.

Milwaukee, Wis., Feb. 24, 1902.

WISCONSIN WHEEL WORKS, Racine Junction, Wis.

GENTLEMEN:—Have been riding your Mitchell Motor Cycle from one end of the state to the other and cheerfully admit that there is no conveyance of any kind that comes anywhere near your Motor Cycle.

The speed rests entirely with the rider. If you enjoy it you can reduce the speed so you almost crawl along; while, if the road is smooth and your sporting blood is up, you can race with passenger trains and they must be good ones if they can shake you.

For commercial travelers that are not overloaded with samples they are the ideal thing. Because you do not have to wait for trains, one can make more towns and consequently earn more money. Last, not least, save all livery expense, and railroad fares. Yes, the Motor Cycle is the best conveyance out and a beauty. Recommend it to anybody that likes to cover big territory at a better speed than can be obtained by horse. My average expense for fuel was only about 12 cents a day.

No. 326 14th Street.

Yours truly,

Representing Milwaukee Oil Specialty Co.

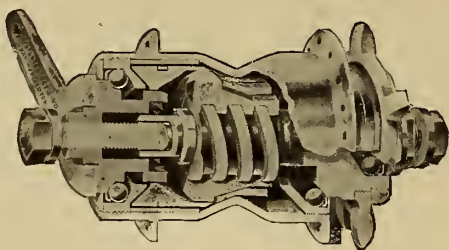
LEO. HOFMEISTER,

LIVE BICYCLE AGENTS ARE RAPIDLY COMING UNDER COVER OF THE MITCHELL CONTRACT.

See samples at following General Agencies:—HENRY VAN ARSDALE, No. 20 Broad Street, New York City; GEO. S. ATWATER, No. 8 Merrimac Street, Boston; WHIPPLE CYCLE COMPANY, No. 260 West Jackson Boulevard, Chicago; MITCHELL, LEWIS & STAVAR CO., PORTLAND, ORE.; SMITH & ZIMMER, MINNEAPOLIS, MINN.

Manufactured by WISCONSIN WHEEL WORKS, Box W, Racine, Wisconsin.

CINCH



Not a Pioneer.
Not the Cheapest.
Just the Best.
THAT'S ALL.

Send for our Special Trial Proposition.

RIGGS-SPENCER CO., Rochester, N. Y.

THE GOODMAN COMPANY,
124 Tribune Building, New York.

Enclosed find \$2.00 for which enter my subscription
to the BICYCLING WORLD for one year, commencing
with the issue of

Name

Address

WORKS MANY WAYS

How Labor Saving Machinery Helps Both Makers' Profits and Workmen's Wages.

"Labor saving inventions have gradually been applied to our uses, and while they frequently enable one person to accomplish the results obtained by several in the old way, I contend," said Charles D. Rice, in an address to the Workingmen's Club, of Hartford, Conn., last week, "that their use does not in a permanent sense deprive others of employment, but rather serves to liberate them, that they may enter into other and newer fields of work, with a strong chance in each case that their burden will be still more lightened, and with an equal chance that the purchasing power of their earned dollars will be increased.

"One would naturally ask where this extra work is to come from. The reply is that after the real necessities of life have been met with we demand what our ancestors would certainly have termed luxuries. And this desire for the general betterment of our conditions serves as a constant feeder toward keeping us all employed. We need no better illustration of this feature than to examine into the nature of our home products here in Hartford. The automobile, the bicycle and sporting firearms, which are made by three of our largest manufacturers, certainly would have been termed a luxury in 'ye olden time.' Typewriters, book-making machinery, knitting machines and small tools for manufacturing on the interchangeable plan are all made in this city, and all of them were an unknown product eighty years ago. In fact, fully 90 per cent of the manufactured products of our city come under the head of extras due to the advances of civilization, and serve to give employment to our skilled mechanics, specialists and laboring men. There is still another advantage gained through labor saving appliances, namely, that their use tends to more fully equalize our labors as a people throughout the entire year.

"Our agricultural interests being first in the line of importance, it can literally be said that there is more farm work done by workmen in our cities or factories, who seldom set foot on farm soil, than there is done by the farmers themselves with their assistants. The axe, the stump puller, the plough, the cultivator, the mower and reaper and the threshing machine are all provided by the city mechanics, thus enabling a set of farm hands to accomplish many times what can be done without these implements. Our mining interests come next in line, and here again the labor saving devices play a similar part in permitting the city-workman sheltered in a comfortable factory to do indirectly the major part in the mining of coal, iron, copper, etc., and which products

provide the mechanic in return with the more important of the raw materials necessary to mechanical pursuits.

"Of the machines which can correctly be grouped together, and which are in a sense dependent on each other in order to represent a complete whole, and which jointly represent the greatest labor saving implements of our time, we would probably be compelled to name the group containing the carding machine, the spinning mule, the weaving loom and the sewing machine. It has sometimes been argued that these inventions do harm to our working classes, and this is almost wholly because of the immediate but only temporary effects which some of these conditions create. The selling price of a commodity is in the long run almost always based on its actual cost. To manufacture an article at an annually low cost enables one to create a greater demand. When business is good, wages are high, as the law of supply and demand enters into the case. Perhaps the Carnegie institutions for manufacturing will best illustrate the point. The rule which was applied by these farsighted captains of industry was to introduce and to keep introducing the most approved appliances so long as a careful calculation by their experts would indicate either an improvement in quality or a reduction in the final costs of the product, or both. This policy enabled the Carnegie plants to rapidly expand, to afford good wages to their workmen, to sell their goods low enough to attract the purchaser, and as just compensation to such broadminded leadership it enabled Mr. Carnegie and some of his lieutenants to become very rich.

"Labor saving devices and improvements are not by any means wholly dependent as to their origin to so-called inventors as we commonly think of them, for every energetic and progressive person who has a strong desire to see things done in the quickest way does his or her share in this direction. The woman who devises a better method of sewing or attaching a button to a garment, and on such a plan as to make the idea commonly known, may accomplish untold good to this and coming generations, even though she profits only through her use of the improvement. The department store idea is the result of many minds being put at work to perfect a complete system necessary to its success. Such a plan of economic distribution is just as correct in theory as to manufacture on a large scale, and were it not right in principle the plan would not have met with such universal success.

"There has been at times some agitation as to the propriety of one person operating in factory practice more than one machine at a time. What I believe to be a proper reply to this question is this: That so long as the work can be produced satisfactorily, and when the operator does not impair his health thereby, if the running of two or more machines by one person will produce the work more economically than would the running of one machine by the same per-

son, then under these conditions it seems to be entirely proper.

"The feature just touched upon is a very interesting one in many respects, and I trust it will not be out of place to make some statements which will be more of local interest than otherwise, and as follows: The ability of an employer to allow satisfactory wages depends wholly upon his ability to produce a salable product at a fair profit. The number of hours per day a factory operates, and the disposition of all employes as to their willingness to produce what they reasonably can during a working day, all else being equal, determine whether a business will prosper and give permanent employment to its help, or whether it will yield to an unequal strife and allow its competitors who are more favored through circumstances to enter its market and finally deprive it of its business.

"In looking into the future one can readily conceive many of the benefits which are to accrue to mankind. The average child will enjoy more years of schooling, and what he learns will be along more advanced and useful lines. This will enable him to enjoy the pleasures of school life for a greater period and will also permit him to so mature before entering into employment as to feel the earlier stages of close confinement to his work very much less. Literature of a high order is fast coming within the reach of all as to cost, and superior educational advantages will enable a greater number to enjoy reading, and to the profit of all who practise it. The people of future time will be still more productive, and consequently more prosperous. The condition of the average home will be much improved over the present. Greater time and thought will be given toward the development of our amusement halls; our park systems and our public highways and means of travel are still subject to much betterment. The sanitary conditions of our cities, our workshops and our homes are fast reaching a perfected state—so much so that even at the present time the average duration of human life has considerably increased. With less of sickness, with physicians, surgeons and specialists of greater skill to attend us when ailing, and the presence in our cities of well managed hospitals, surely the lot of those yet to visit this world will be an easier one. Furthermore, the human family through the adoption of the principle of doing everything by quick methods so long as things can be done well, will find the time without overwork to study the great problems of life with a view to either lessening or wholly preventing the existence of many of its present hardships, just as has been done in the more recent past. Again, touching upon our ever increasing opportunities along educational lines, according to the record kept by the editor of Appleton's Annual Encyclopedia, the gifts for educational purposes in the United States, including libraries, during the last nine years amount to \$419,000,000.

"We have good reason for believing that the inclination of our men of great wealth and resources is in the direction of giving still larger amounts to such worthy objects as these as time advances. These are among the many advantages for people of future time, and there are doubtless many of us here to-night who would be pleased to return on some distant day and witness the great things which are sure to prevail."

LONG LIVED TIRES

Some Strong Evidence That High Grade Tires are the Cheapest in the End.

"Talk about pneumatic tires being short lived and expensive!" exclaimed the old rider. "I have not found them to be so. That was one of the chief objections urged against them when they first came into use. Even now one hears the same story. But there's nothing in it, or at least my experience does not show it.

"I'll give you a proof of it," he continued. "I am overhauling my collection of wheels preparatory to an active season—the first, by the way, for a couple of years. Naturally the tires come in for a good looking over.

"There are three machines in the lot, a tandem—for I am so unfashionable as to retain an affection for the two seated machine—a drop and a diamond frame. The tandem shall be passed, for everybody knows it is not easy on tires. The rear one has outlived its usefulness, and the front one, after four years' service, is not very much better. So they will have to be replaced.

"But come to the drop frame. It has on it tires fitted to the machine when it was purchased—early in 1897. It has not been run much since 1899, but in that and the two previous seasons it saw good service. The five years that have elapsed since 1897 should have played havoc with the rubber, however, and they ought to be unfit for use. But to save my life I can't find anything wrong with them, or see why they should not go through a good part of this season. They had not been pumped for the best part of a year, but there was still some air in them. Inflation the other day failed to reveal any bumps, boils or other evidences of coming trouble. This being so, why shouldn't they be made to do service again?

"Now, to come to my own machine. I got it out Sunday, gave it a lick and a promise in the way of a cleaning, pumped the tires and took a twenty mile ride for a starter.

"The machine had not been used since October of last year. Nevertheless, the rear tire was about half filled with air, although the front one was entirely deflated. I have a hazy idea that there is a slow puncture in it, and I'll have to investigate the matter. That tire dates back to '98, and there are a good many hundred miles of service in it yet. The rear tire is a year younger, and it is not in quite as good condition. Still, there is nothing really wrong with it, either. It will last me a while longer yet.

"Now, I call that a pretty good record. The tires on my machine get fairly hard usage, and are never spared. My mileage runs up to somewhere between two and three thousand miles a year."

It is said that cycling has taken a hold in Cochin China, chiefly, of course, among the foreign residents.

Pennell's Opinions Bear Fruit.

"The ordinary bicycle as a touring carriage is done for; the minute a man takes up a . . . motor cycle he ceases any longer to care for the ordinary 'machine.'" This is Joseph Pennell's opinion as stated in the current "Contemporary." It is expressed "after riding motor cycles for three seasons," touring "all over England, France and Italy," and making "a trip across Europe that has not been approached" by any one else.

In the course of these experiences Mr. Pennell did a deal of "hard shoving" on the pedals, especially when accidents reduced him solely to this resource. But he was never "stranded hopelessly, as may happen any minute with a motor car." He always got where he intended to get, and when he intended to get there, and he was never "accompanied by any engineer." He reached his destination always and was independent. Nor was he subjected to the financial drains of being "regarded as a millionaire"—as the owner of a motor car is apt to be. He was not treated in general as one who distributes money rather freely. Mr. Pennell finds, accordingly, "that the motor bicycle is as yet, for persons of average means, the only practical self-propelled carriage."

Its slow improvement he attributes in part to the stupidity or lethargy of makers and in part to their present devotion to motor cars. Within the last year motor cycles have gained much recognition in exhibitions, but their development is still in an unsatisfactory stage. "For the motor cycle," he says, "which will carry me as reliably as an ordinary bicycle, though naturally requiring more attention, I really do not know where to look." The whole trade, however, "is experimenting, or, rather, waiting for some clever man to do so," and in the near future he expects "a reliable motor bicycle or light, compact tricycle will be evolved." When it appears he believes it will be "the most popular vehicle ever invented."

That such a machine would serve its thousands where the automobile serves its tens is one of the possibilities of the future. "If realized it would effect greater and more permanent social changes than have been wrought by the bicycle," concludes the "Chicago Tribune," after reading Pennell's opinions.

Ready-Made Ads. for Retailers.

H. P. Townley, who is himself in the bicycle business in Terre Haute, Ind., is not one of the dealers who believes that "any old advertisement" will do. He has given thought to the subject, and as a result he offers at a modest price to agents generally a book of fifty ready made ads, which he has used and which may be used by any one else with equal facility. They are crisp and "catchy," and the fact that Mr. Townley states that they brought him business is a good reason why they should interest others in the trade.

"The Motor: What It Is and How It Works." See "Motocycles and How to Manage Them." \$1. The Goodman Co., Box 649, New York. ***

OLD AND UNKNOWN

Criticism of Negligence of Riders and Waste and Indifference of Repair Shops.

The recent thaw and warm spell that struck this city led to the acceptance of an offer, from a friend, to occupy the back seat of a tandem for an evening's ride. Naturally he was trusted to have the necessary fixings in case of any trouble either with the machine proper or the tires.

When a puncture came, for the venture was made to ride away from the asphalt onto some rather rough and mirey roads, it was true that tools were produced along with an alleged repair outfit. It is by courtesy called alleged, because the tool itself was all right as such, but the solution it contained was of last fall's vintage, and the plugs were old and showed the war marks of being mixed up with all kinds of tools in the bag.

A repair was attempted, but, of course, it refused to hold, and so the old trick was resorted to of pumping to the excess of hardness and then jumping on and rushing matters until bumping again began. This off and on again was kept up until the nearest repair shop was reached. Here well known brands of solution and plugs were called for without result. The tire would be repaired—with some sort of just as good rubbish—and could be called for in half an hour. This wasn't the idea—goods were wanted that were known and had a reputation.

The next shop was tried, with no better results, as the brand of solution was there, but in partially used tubes, the residue being hardened in at least half a dozen tubes that had been used in part by the repair man. Finally a tube was found of a brand of repute, it had not been thought of at first, but the repair man tried to palm it off as that first called for. This was open to criticism, but the position was accepted as filling the bill, although with somewhat a guilty conscience.

Morally the last man was worse than the just-as-good fellow. He had something worth selling, but sought to sell it under another name. The first man had mighty poor stuff, yet he did not try to hedge under a false name. He committed a mistake rather than an evil, and it is to be hoped he will realize the value of good goods and stick to them.

Cranks and Gears.

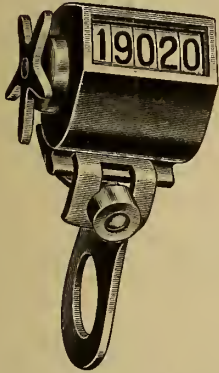
The following combinations of cranks and gears used by various English racing men last season have been compiled: W. B. Dudden used 6½-in. by 98 to 100 behind pace, and 92 to 96 for sprinting; A. S. Ingram has a fondness for 6¾-in. by 90; G. A. Olley using a 6½-in. crank, varies his gear from about 88 to 101, according to the class and conditions of the events he participates in; A. A. Chase fancies 6½-in. cranks and 128 gear for the track, but brings down the gear to the region of 90 for the road.

Veeder Cyclometers

STAND ALONE.

10 000 Miles and Repeat
and Trip.

10,000 Miles
and Repeat.

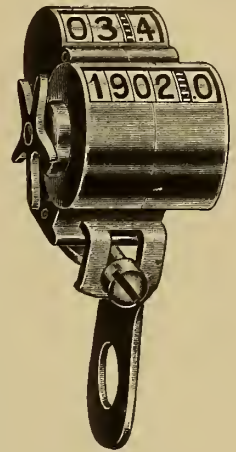


ACTUAL SIZE.

Competition has been silenced by sheer
...SUPERIORITY...

Wheelmen no longer ask for a "CYCLOMETER."
They ask for a "VEEDER."
Those two words are synonymous.

Dealers can secure them from any jobber of consequence in the
United States. They are on sale in every
civilized country in the world.



ACTUAL SIZE.

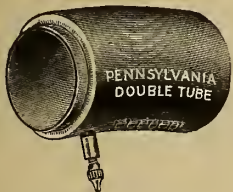
Makers of CYCLOMETERS,
ODOMETERS,
COUNTERS,
FINE CASTINGS.

THE VEEDER MFG. CO.,

CATALOGUE FREE.

HARTFORD, CONN.

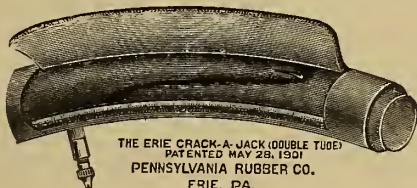
Jobbers, Be Wise!



Handle these
Goods and
MAKE MONEY.

STAY WITH THE GOLD MEDAL WINNERS.

Write for
our
1902
Price
List.



THE ERIE CRACK-A-JACK DOUBLE TUBE
PATENTED MAY 28, 1901
PENNSYLVANIA RUBBER CO.
ERIE, PA.

Don't close
until you
consider
our entire
line.

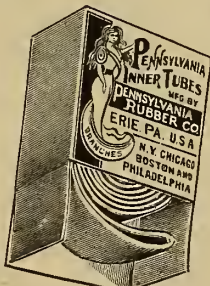
**PENNSYLVANIA
Rubber Company,**
ERIE, PA.

BRANCHES:

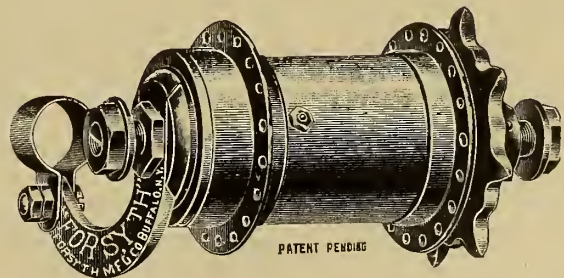
NEW YORK
BUFFALO

CHICAGO

BOSTON
PHILADELPHIA



Made its
acquaintance
yet?



The Adjustable Forsyth.

If not, why not? Acquaintanceship is making
money for others. It should be able to make it
for you.

We'll be pleased to do the introducing.

FORSYTH MFG. CO., Buffalo, N. Y.

The Freak of Freaks.

What may fairly be termed a freak in motor bicycle construction has been designed by an English electrical engineer.

The construction is made up of two bicycles—one of regulation size with the front wheel removed, and one of a smaller size, having 15 $\frac{3}{4}$ -inch wheels, looking for all the world like a toy bicycle without handlebars, saddle or pedals.

This small machine carries the motor, the crank case of which just fills the main diamond of the frame, and the cylinder and head projects about the line of the top tube.

The tanks, battery and flat feed carburetter are carried in the diamond of the larger frame, with the coil placed up and down forward of the steering fork and the muffler under the diagonal tube of the main frame, similar to the Thomas machine of last year. The motor and carburetter are connected by a rubber tube, while the muffler connection is made by flexible metallic tubing.

The forks of both frames are of the bridged type, with struts at the crown. Steering is accomplished by running a tube down inside the main front fork to a bridge piece almost at the bottom of the fork. This bridge piece terminates in a lever, and is connected by a rod to the front forks of the small leading machine.

The drive is through a chain running to the rear of the two small wheels, the motor running at three and one-half revolutions to the road wheel's one. The two small wheels are hinged centrally, and are free to move up and down independent of each other and the regular back wheel when unequal surfaces are passed over.

It is claimed by one who has ridden the machine that it is particularly steady in steering over greasy surfaces. By setting the two frames out of line, the machine is supposed to stand unsupported.

In conclusion, it is perhaps hardly necessary to state that the inventor does not intend to enter into the construction of the machine, but is looking to sell the patent rights.

Tests With Large Tires.

The editor of the C. T. C. Gazette writes of experiments with large tires that he has been making in order to determine whether they would afford a better means of isolating the rider from vibration than spring frame machines. He had his machine fitted with 2-inch tires on the back and 1 $\frac{3}{4}$ -inch in front, of the open-sided variety, and got the Dunlop company to fit these on the 1 $\frac{3}{4}$ -inch and 1 $\frac{1}{2}$ -inch rims respectively. The result was that the increased weight only amounted to two ounces in each pair of wheels, as compared with the 1 $\frac{3}{4}$ -inch and 1 $\frac{1}{2}$ -inch tires.

The conclusions he arrived at after riding this machine during the spring, summer and autumn were as follows: (1) That with a 2-inch tire on a 28-inch driver, and a 1 $\frac{3}{4}$ -inch tire on a 30-inch steerer, a spring device upon average roads is certainly not a necessity, even if a cross frame be employed. (2) That

the use of tires and wheels of this size is attended with the greatest possible advantage in the winter months, when the roads are either heavily stoned or locked in frost-bound furrows and ridges, but (3) that if speed be the chief consideration, or summer riding only be indulged in, tires one size smaller are to be preferred. In other words, if ordering a machine for himself under those conditions he would stipulate for a 1 $\frac{3}{4}$ -inch back tire and a 1 $\frac{1}{2}$ -inch front—the 1 $\frac{3}{4}$ -inch size is not now made by the Dunlop company—28-inch and 30-inch wheels being understood. If, however, the maker from whom he elected to purchase would "have none of your 30-inch wheels," he would stipulate for 1 $\frac{3}{4}$ -inch tires on both steerer and driver, for the "out sizes" he has been riding, although they are luxury itself, are not conducive to speed in a sprint. To put it tersely, they are all right when they are going, but it takes some effort to set them going quickly.

About Kicks and Kickers.

Fault is found by many that money is unequally owned; one man has several millions, and one thousand others have none, or very little. Why don't the same folks "kick" at the distribution of other talents than the money making one? Why don't they say it's a shame and not to be submitted to that one or two men are eminent mathematicians, can delve in fluxion and differential calculus and calculate eclipses, while a thousand others have troubles with simple arithmetic?

Why don't some folks "kick" that there are three or four eminent poets in every age like Browning, Tennyson, Shakespeare and others, while thousands can't make a penny rhyme?

Why don't some folks "kick" because there are three or four electrical experts to an age like Edison, Kelvin, Tesla, while thousands don't know a volt from an ohm?

Why don't some folks "kick" because three or four men in a generation do the scientific discovering, and tens of thousands can't comprehend it after explanation? Thus through every branch of human experience, letters, discovery, science, electricity, poetry, three or four men do the pioneer work, to get the world-wide renown, says Graphite. Why don't the same "kickers" "kick" at this?

It's a monopoly of talent, it should not be submitted to—take it away from them.

Strip Edison of his gifts and distribute them equally; take away from Shakespeare his talents, and make dead levels of the crowd.

Why don't this "kick" come? We give this tip free to "kickers," and would remind them that this matter of gifts is a monopoly which no free man should submit to.

It's an outrage that Tennyson writes a song that is in everybody's ears, and five thousand ordinary men can't even write plain prose—up a "kick"—this is a free tip.

"Motorcycles and How to Manage Them"; 126 pages, 41 illustrations; cloth bound, \$1. The Goodman Co., Box 649, New York ***

When Pneumatics First Appeared.

When the pneumatic tire was first spoken of, the inventor, J. B. Dunlop, was the only man in existence who believed that it would prove faster than the solid tire on smooth racing tracks. The general impression was that the reason it scored on rough surfaces was because it absorbed the inequalities, and critics overlooked the fact that a serious drag existed on the solid tire, which affected its pace, and which was quite absent on the pneumatic. That was in 1889, and R. J. Meeredy, who was probably the first trade paper man to give the tire careful study and trial, states in a recent article that he must candidly admit that until he actually tried it he was at first among the doubting Thomases in this respect. His first trial of the tire, however, convinced him, and it was then that he expressed the opinion that the pneumatic tire would become universal, even on cheap machines, an opinion which was laughed to scorn by other trade press men.

Strange to say, even as late as July, 1890, the opinion still existed that on very smooth tracks the tire was slow, and when the Irish brigade were starting for their famous campaign in England, Dr. Turner wrote personally, in a friendly way, stating that the tire had been tried at Paddington, and had been found slower than the solid; in fact, in the first championship in which the Irish brigade took part there was not, as well as he can remember, another pneumatic tire, and, needless to say, it proved a runaway win.

In the next championship a week later, however, every competitor was riding a pneumatic tired machine, most of them their own property which they had in their possession, but for use only on rough tracks.

Another curious fallacy existed for a considerable period, and that was that the pneumatic tire was slower uphill than the solid; and, if we mistake not, "The Irish Cyclist" stood alone in contradicting it. It must have been three or four years after the tire was first introduced that this erroneous idea was finally set at rest by the result in various hill climbing contests. These cases are glaring instances of the mistakes made, even by experts, when dealing with cycling subjects.

A lubricant for aluminum, when turning it in the lathe, is either petroleum or water, and when drawing it out or stamping it in the press the best lubricant is vaseline.

OILERS.

"PERFECT"

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"GEM"



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WORLD** Dedicated to the
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WILL SURELY
INTEREST YOU.

It is published for the information
of the average mortal; no dic-
tionary of mechanical
terms is needed to
understand it.

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10 CENTS PER COPY.

SAMPLE COPY ON APPLICATION.

The Week's Patents.

695,002. Bicycle Pump. De Wane B. Smith, Deerfield, N. Y. Filed Feb. 16, 1899. Serial No. 705,646. (No model.)

Claim—1. The combination in a bicycle pump of a pump cylinder, a pump foot or support rigidly attached to the lower end of the cylinder, a rigid side projecting spout or tube having a downwardly opening outlet and an elastic washer or bushing arranged in said outlet and adapted to engage the valve nipple, substantially as set forth.

695,142. Cycle Saddle. Walter Brampton, Dorridge, near Birmingham, England. Filed Oct. 26, 1901. Serial No. 80,095. (No model.)

Claim—In a saddle, a suitable supporting spring, a curved cantle plate connected to the rear thereof, a saddle leather secured to the said plate at its rear end and to the spring at its front end, and a second bar curved substantially concentric with the cantle plate and secured solely to the saddle leather in advance of said plate, substantially as described.

695,164. Bicycle. Adolph N. Miller, North Milwaukee, Wis. Filed Aug. 5, 1901. Serial No. 70,878. (No model.)

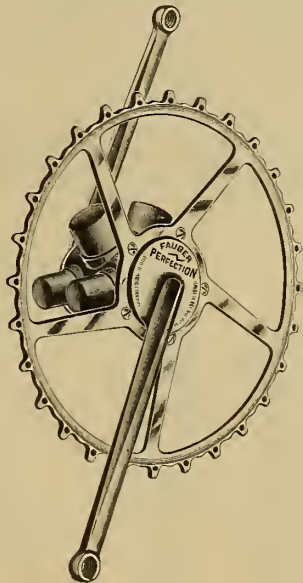
Claim—In a bicycle, the combination of pedal cranks and axle in a single piece, and provided with screw threads for the interior bearing cones, a crank hanger having exterior ball bearing collars permanently secured therein and adapted to permit the manipulation of the crank therethrough; interior threaded bearing cones or collars adapted to engage the screw threaded portion of the crank shaft; an annular capping plate engaged with and covering the ends of the crank hanger sleeve; said plate and interior bearing collar having interlocking projections and recesses; and means for securing the annular plate in position.

695,199. Air Pump. George W. Eddy, Waterbury, Conn., assignor to the Scovill Mfg. Co., Waterbury, Conn., a corporation of Connecticut. Filed June 1, 1899. Renewed Jan. 27, 1902. Serial No. 91,468. (No model.)

Claim—1. An air pump, having a discharge tube of rigid material and provided with a coupling for connecting the same with the inlet of an object to be inflated, and a yielding and detachable joint between the pump and the discharge tube

TRADE MARK

Fauber Perfection Hanger



THE
DIAMOND
SQUARE
CRANK

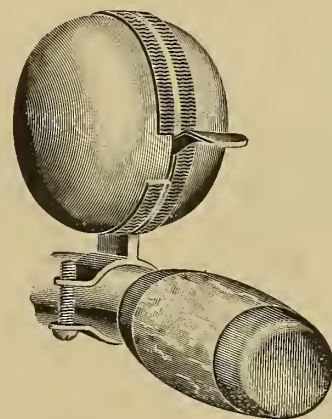
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any of the
points which
make a Perfect
Hanger

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make themselves
heard in the world
do
Bevin Bells

That's their mission.



Which reminds us that if we
haven't heard from you, we
ought to do so within the
course of the next day or
two.

It's better late than never,
you know.

You may be able to worry
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but we believe our goods and
our prices will help you get
along as you should—that is,
with sure profits and with-
out the worry.

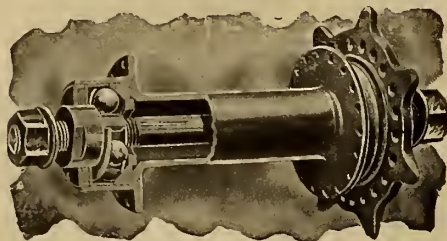
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that it is possible to produce. Made in
one grade only, the highest. Handsome
in appearance; simple in construction; easy
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most complete line of bicycle frame fit-
tings and crank hangers on the market.
Our 1902 prices are low. Write for them.

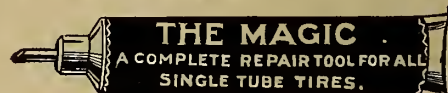
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brought us trade. Catchy headlines. Attractive
wording. Ready for the printer. They will surely
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WORLD BICYCLES.
Jobbing Wheels a Specialty.
LARGEST INDEPENDENT MAKERS IN THE COUNTRY.

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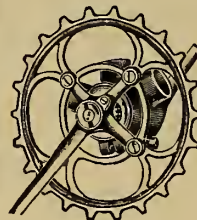
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Park City Mfg. Co., Inc., Chicago

Schrader Universal Valve.

(Trade Mark, registered April 30, 1895.)

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Manufacturers of Bicycles, Jobbers and
Dealers:

In order to facilitate the
obtaining of

PARTS of the
Schrader Universal Valve,

I have concluded to sell
parts only to the general
trade.

Parts 99-1, 99-2, 99-3, 99-4, may be had from all the makers,
or from A. SCHRADER'S SON. Price List and description of
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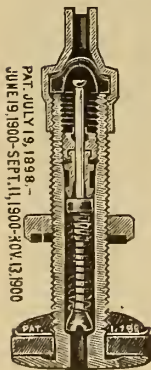
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The Bicycling World

AND MOTOCYCLE REVIEW

In which is incorporated "The Wheel and Cycling Trade Review" and the "American Cyclist."

Volume XLIV.

New York, U. S. A., Thursday, March 27, 1902.

No. 26

TO ARREST DAVIES

Aftermath of Toronto's big Failure—Charged With Obtaining Credit on Padded Books.

Reports come from Toronto that criminal proceedings have been taken against H. P. Davies, vice-president and manager of the American Tire Co., of that city, at the instance of the Quebec Bank, the charge being that \$200 was obtained under false pretences. Civil proceedings have also been instituted at the instance of other banks.

An order was made nearly two weeks ago for the liquidation of the American Tire Co., and E. R. C. Clarkson was appointed by the court to conduct the concern during the interim. Liabilities at that time, it is said, were placed at \$110,000, but no statement of assets has yet been made public by the liquidator. It developed after Mr. Clarkson took charge that several local banks were heavily involved. The interested banks took civil proceedings against the president, E. M. Sparks, of Ottawa, and the vice-president and manager, Mr. Davies. The Molsons Bank issued a writ against Mr. Sparks to recover the value of two notes for \$20,000 and \$11,000, and another monetary institution issued a second writ against Sparks and Davies jointly for \$14,000.

In the proceedings the allegation is that Davies, in order to secure the accommodation he required, produced at the bank padded order sheets, representing that the business of the concern was greatly in excess of the actual state of trade. The recent investigation into the financial affairs of the American Tire Co. has, it is alleged, shown these statements to be false.

Here's Hopping.

Chicago mail order business has received what it is to be hoped is a serious setback, due to the fact that a lot of bicycles of that ilk have been disposed of in quick time. Fire destroyed the upper floors of a building on Wabash avenue and Congress street, two floors of which were occupied by the Mead Cycle Co. The reports state that the stock of the company was a total loss; damage, \$8,000.

Manager Beach Expires Suddenly.

Nelson M. Beach, treasurer and general manager of the Bridgeport Brass Co., died suddenly at his home in Bridgeport, Conn., on Wednesday of last week. He was awakened by an attack of heart trouble in the morning and died a few minutes later. He was born in Derby, Conn., forty-eight years ago. He went to Bridgeport when a boy and entered the Bridgeport Brass Co.'s employ as an office boy. At the time of his death he was the highest salaried officer in the corporation and perhaps in the city of Bridgeport. He leaves a wife and two sons. He was prominent in club circles and in Masonry.

Encouraging the Road Hog.

If a bill which has already passed Ohio's lower house ever becomes a law, the man known to bicyclists as the road hog will be in the seventh heaven of delight.

As passed by the House, the bill requires that persons riding bicycles or automobiles shall at least give up two-thirds of the road to vehicles drawn by horses.

Some of the Ohio papers have taken up the matter, and suggest that if the member who framed the bill had ever ridden a bicycle over some of the roads of that State he would want to turn the bill around and make the driver of a horse drawn vehicle give up two-thirds of the road to cyclists.

Bell Patent Annulled.

Judge Townsend has filed a decree in the United States Circuit Court in the matter of Bevin Brothers' Mfg. Co., of Bristol, Conn., against the Starr Brothers Bell Co., also of Bristol. Judge Townsend rules that the patent in suit for design for a bell, issued to Frederick A. Scranton, dated August 28, 1900, and No. 33,142, is null and void for a lack of patentable novelty in the subject matter described and claimed therein. The bill of complaint was dismissed with costs to respondent.

One Price Cutter Less.

The Eastern Wheel Works, which for several years maintained a pretentious jobbing establishment at No. 25 Warren street, this city, has closed its doors and cried quits. Of recent months cut prices appeared to be its mainstay.

JOBGING MERGER ON?

Five Big Houses Said to be Concerned—But They Make Diplomatic Denial.

For many months it has been known that strenuous efforts were making to get the larger hardware jobbers of the country into a pool or combination of some sort. Of late "merger," that term which has fashionably replaced "trust," has been used to describe the undertaking which reports said would be capitalized at \$30,000,000.

Early this week press dispatches from St. Louis quoted F. C. Simmons, of the Simmons Hardware Co., as saying that the merger would in all probability be consummated. Five houses were named as being concerned in the deal, viz.: Simmons Hardware Co., St. Louis; Hibbard, Spencer Bartlett Co., Chicago; Bindley Hardware Co., Pittsburg; Supplee Hardware Co., Philadelphia, and Bigelow & Dowse, Boston—each of whom deals extensively in bicycles.

Inquiries as to the truth of the report bring what appear diplomatically evasive responses.

Thus, in answer to the Bicycling World's query, Bigelow & Dowse wire: "Report is incorrect and was published without our knowledge or consent."

The Supplee Hardware Co. replied to the same question in this language: "We have no knowledge of the consummation of any pool, amalgamation or combination of the firms mentioned."

Stocks Reflect the Sunshine.

American Bicycle Co.'s preferred stock touched 19% on Tuesday last, the highest point in many months. The rise is attributed to the outpouring of cyclists on Sunday last and to the general renewal of cycling interest, which nearly all of the metropolitan papers are now remarking.

Thomson Incorporates.

Rochester, N. Y.—The Robert Thomson Co. has been incorporated. This company is to deal in bicycles, automobiles and sporting goods. The directors are: Robert Thomson, Annie Thomson and Edna L. Thomson. The company is capitalized at \$20,000.

CHANGES ARE COMING

Riders Find There Are Novelties to be had— Old Models Unpopular.

It is only necessary to keep one's eyes open to behold many curious things. Those particular features which may be to the cycle as the "mirror of fashion and the mold of form" at one time, may, a little later, have become quite passé. The machine which has these features incorporated in it looks odd; and it is an oddity that brings no pleasure to the owner. Instead of being pleased with the interest taken in it, as would have been the case at one time, he is pained—almost ashamed of it. He is out of fashion. That single word sums it up and includes a multitude of sins.

It was only a few years ago that excessively low crank hangers were just "the thing." Riders who had such machines were as proud as peacocks, and those who hadn't made haste to get machines like them or to have their old ones cut down.

But now the pendulum has swung in the other direction, and the low crank hanger is looked upon askance. One that had a drop that must have been all of 3½ inches, and which was linked with exceedingly long cranks, was noticed going down a popular road the other day, and it did look queer. Even people who would usually be unobservant appeared to look at it to see what was wrong about it. The rider himself seemed conscious and ill at ease. Yet the machine was well kept, and but for this indication of archaicism would have appeared to be one of the latest models.

Riders no longer take pride in tubing of large diameter. The fashion is strong the other way, and in place of the 1¼-inch size of the later '90s, the 1-inch and smaller sizes are found on the most fashionable machines. Many riders would, if they possessed the power, cause their frame tubes to shrink or shrivel at their command.

There is not, of course, any such keenness after season changes as there was during the height of the boom. Riders do not find it necessary or desirable to get new machines every year, or to apologize if they do not. There is no such inducement to do so as existed then; inducement, that is, in the machines themselves owing to the changes made in them, or in the avidity with which the pastime of cycling is pursued. Lacking this, it is inevitable that riders should hold on to their machines much longer than they once did.

But, on the other hand, it is beginning to look as if the disinclination to change were not as strong as formerly. Of late years many riders have taken pride in the possession of old wheels. Instead of concealing the fact, they have paraded it, made a boast of it. There was no change, no improvement in the new machines, they said. So why should they make a change?

That feeling is passing away. There are points where the cycles of three or four or five years ago are given cards and spades and a beating by the newer models. A realization of the fact is percolating through the brains of riders, and the result is certain to mean an increase in sales.

Where the Bicycles Went.

Owing to the manner in which the government statistics are published little satisfaction is obtainable as to the extent of Europe's purchases. Only the shipments to Great Britain, Germany and France are specified, the remainder of the Continent being lumped under the head "Other Europe."

To obtain the details of the countries so grouped requires considerable work at Washington. That they are both interesting and valuable, however, and that they include several large buyers, the dissected statistics of the exports during 1901 disclose, as the following figures attest:

Austria-Hungary	\$1,262
Azores and Madeira Islands.....	475
Belgium	36,634
Denmark	150,386
France	209,706
Germany	227,966
Greece	1,855
Italy	52,909
Malta, Gozo and Cyprus Islands...	766
Netherlands	146,873
Portugal	1,224
Russia on Baltic and White Seas..	53,519
Russia on Black Sea.....	444
Spain	4,763
Sweden and Norway.....	69,199
Switzerland	6,542
United Kingdom.....	502,163
Turkey in Europe.....	263

Total\$1,466,949

Praise From a Veteran.

A. H. Pomeroy, Hartford's veteran dealer, is one of those who are feeling the effects of the renewed interest in and demand for bicycles, and who reflect the value of a trade paper.

"I often think that if it had not been for The Bicycling World I would have abandoned the bicycle business," he says. "I have been reading it religiously for a good many years. I take it home for Sunday reading, and its hopeful tone and helpful advice when nearly every one and every other paper was damning or deriding bicycles and the bicycle trade certainly had its effect on me."

Bevin Working Overtime.

It is reported that the Bevin Bros.' Mfg. Co., of East Hampton, Conn., has been obliged to put a night force on the presses to catch up with orders for bicycle bells and parts.

How Kokomo Quality is Telling

The Kokomo Rubber Company are reaping the reward of "sticking everlastingly" to quality. They are doing the biggest business in their history in bicycle tires.

SHOCK IS SANGUINE

Has Plenty of Work—Twenty-Seven Machines Taken off the Shelf.

It needed only such a springlike day as was Sunday to make "glorious summer" of the cycle dealer's winter of discontent. One of those it transformed was Albert Shock. He was encountered on Monday morning en route to his store in Brooklyn, loaded down with an armful of coaster brakes and other things that he needed in a hurry.

"Twenty seven machines since Saturday have I hauled down from the shelves where they have reposed for many months," he confided.

"They were all wanted for Sunday, of course," he went on. "And I worked late Saturday night and all day yesterday, doing the best I could to oblige the customers who had suddenly discovered that I was alive and in possession of some of their property. A dirty job it was to clean the dust off them, go over them hastily, pump up the tires and make sure that they were rideable.

"It does me good to see it, though, for all everybody is in such a confounded hurry. They can't wait, of course. The months or years they have forgotten these machines only seem to make them more anxious to get them out right off. It is, 'I must have this to-day, Albert,' and 'You can put me ahead of some of the others, I am sure,' and such blarney all the way through.

"Here for months I have had my hands full of time and mighty little work; now it's all work and no time to do it in. Coaster brakes to put on, and must be done at once. Why couldn't they have given it to me during the winter?

"But that's always the way. Nothing to do at one time, and then a rush that don't give you time to eat or sleep. But it's a good business, after all, and if things only turn out as well as they look now I won't have any kick coming," and the old time racing man continued on his journey.

The Sunny Side of Second-hand Sales.

The Bicycling World man chanced to be in the store at the time and heard the dealer try to sell the wheelwoman a guaranteed tire of reputable make. She balked at the price, however, and finally paid \$1.25 for a second hand tire.

"That's a tire we took off a wheel this morning," the dealer said after the woman had left. "The man to whom it belonged bought a new one, and we simply doctored the old one with Neverleak tire fluid, so we just about found \$1. Hear from it? Not at all. That is one of the beauties of selling second hand stuff. The people who buy it apparently expect trouble, and if it comes they blame themselves for buying the old truck; at any rate we rarely have a kick. If that was a new tire and anything at all happened to it we'd hear from it from the beginning of the season to the end."

WORCESTER ONCE MORE

Court Hands Down More Rulings in the Wearisome and Interminable Case.

In the United States Circuit Court for the District of Connecticut Judge Townsend has handed down two decisions in the case of the Worcester Cycle Mfg. Co.

One was an opinion denying the motion of Charles C. Goodrich, trustee, to dismiss the petition in the case of the Central Trust Co. of New York against the Worcester Cycle Mfg. Co and others. The hearing in this suit, which was one of many against the cycle company, was on a motion to dismiss the petition of Camille Weidenfeld, an accommodation indorser of a note held by J. Burnett Nash, who brought suit prior to the appointment of the receiver for the company and on February 8, 1898, obtained judgment thereon against the defendant. Afterward Nash obtained judgment against Weidenfeld as indorser of the note and Weidenfeld paid the amount thereof to Nash. She is now the owner and holder of the note. Nash and Weidenfeld joined in the petition for an order for the payment to Nash as trustee of certain moneys in the hands of the special master and to grant to Nash leave to issue execution against certain property of the defendant in the hands of the receiver. The parties interested are given twenty days from March 22 in which to file an answer.

On the motion to approve the special master's decision in the action brought against the company by the American Surety Co., the judge said:

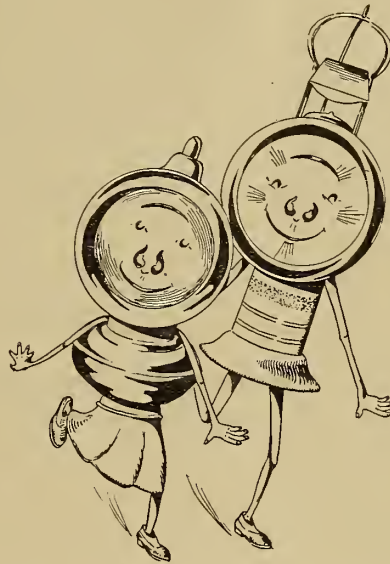
"The property in the possession of the receivers was sold by a special master under an order of the court. As to a part of the property sold, it was impossible to tell how much of it was acquired by the company before and how much after the execution of the mortgage. This property was included in the order of sale, and it was, therefore, stipulated between the surety company and the trustee in insolvency that the trustee should have one-half of the gross proceeds. At the time of the sale, counsel for the attaching creditors threatened to prevent the sale unless their rights were protected, and thereupon a stipulation was made that the net proceeds of the sale of that portion of the parcel claimed by the trustee, being one-half of such net proceeds, should remain subject to the lien of the attachments of any of the attaching creditors, and if the surety company should purchase said first parcel it should not be required to pay into court more than one-half of the purchase price."

Judge Townsend orders that \$3,000, the proceeds of one-half of the parcel in question, shall be charged with a proportionate share, viz.: 3-87th of the \$2,170, and not with any part of the remaining \$8,888.

Riggs Arises to Remark.

"Sued?" said Frank C. Riggs, of the Riggs-Spencer Co., when asked about the patent suit brought against his company. "Yes, I suppose the patent attorneys must have their share of the coaster-brake business. We are resting easily in our minds, however, as you may be sure we know pretty well where we are at before going into the manufacture of the Cinch to the extent we have.

"We did not tumble into the coaster-brake business blindly in any respect, as I believe our competitors are beginning to realize, and any one who cares for patent litigation can get all they want before they get through with us. Our patent matters are in the hands of one of the most competent firms of attorneys in the country, and our stockholders are the kind that really enjoy a fight. Our customers need not worry, as they may expect us to protect them if necessary."



"THE LIGHT FANTASTIC."

How Morrow met the Rush.

In the grand rush that swept the trade last week it was to have been supposed that a concern like the Eclipse Mfg. Co., making such a popular and well known article as the Morrow coaster brake, would feel the effects in a large way. That they did so a personal line from Sales Manager Webster attests.

"In the past two days," he writes under date of Monday, "we received rush orders for 9,300 Morrows. We were in shape to meet the demand, however, and have been able to ship exactly 8,730 of the hubs. I doubt if any one else in the business could have so quickly answered such a sudden call."

Lovell Diamonds in Old Settings.

According to advertisements in New England papers, the Lovell Arms Co. has come to life and is again selling the Lovell Diamond bicycle, although both "gave up the ghost" several years since. These bicycles several years since. The bicycles are being sold on the mail-order-get-one-free plan.

MOST MONUMENTAL FRAUD

Of All Fakes, This Tire is the Most Brazen and Ingenious.

In the name of bicycles and things connected with bicycles many frauds and fakes have been perpetrated, but for brazen audaciousness A. G. Ibbeken, the proprietor of the Globe Cycle Co., in West One hundred and twenty-fourth street, this city, last week happened across a fake so monumental in inception and design as to stagger belief.

The fraud took the form of a tire. It was brought into Ibbeken's store attached to a cheap bicycle. The owner knew only that it would not hold air, and, like the average owner of a cheap mount, he did not know what was the matter with it nor how to get at it.

It was supposed to be a double tube tire of the laced type; at first touch Ibbeken noticed only that it was particularly boardlike for a supposed deflated tire. It appeared old and "crystallized" like a tire that had been long out of use. As it refused to hold air Ibbeken ripped it off the wheel, and for the moment could scarce believe his eyes. The tire contained a cheap inner tube all right enough, but the outer cover was of paper covered with muslin which was glued to the paper, the whole being painted or solutioned a slate or "tire color." The paper is of fairly stiff cardboard cut into sections the length of the tire, two sets of sections being employed, the outer set overlapping the inner to break joints, the edges are serrated and interlock after a fashion, thus forming a tube, and the fakir, whoever he was, was so sparing of muslin that it covered only that portion of the "tire" which was visible; the portion next to the rim showed the bare paper.

Where it came from the owner did not know.

"But you should have heard him swear!" was Ibbeken's comment.

The fraud seems so ridiculous as to appear incredible, but The Bicycling World saw the "tire" and carried away a section as a souvenir. It shows that it had seen use.

The Rewards of Quality.

"Six hundred orders for Persons saddles on Saturday, 1,265 on Monday," is the word that comes from the Persons Mfg. Co. "Such concerns as the George N. Pierce Co., the American Cycle Mfg. Co. and the National Cycle Mfg. Co. have already taken more than their contracts call for, and the best of the season is yet before them," adds Mr. Persons.

First Coaster Brake Patent.

While their Phoenix bicycle is well remembered, few are aware that D. C. Stover and W. A. Hance, of Freeport, Ill., were the first American patentees of a coaster brake. It bears date December 4, 1889, and is numbered 418,142.

IT WAS A NATIONAL CHAINLESS THAT PAYNE RODE



MODEL 50 NATIONAL CHAINLESS.

From
New York
to
Buffalo
in
42 Hours
55 Minutes

beating the record
over an hour.

They are better than ever for 1902.

NATIONAL CYCLE MFG COMPANY,
BAY CITY, MICHIGAN.

“Lest You Forget”

Fisk Tires are the highest grade.

They are full of life and speed, desirable and easy of repair.

Specify them on your new wheels.

Buy them for your repair department.

REMEMBER WHEN

“You buy the FISK you run no RISK.”

FISK RUBBER COMPANY, Chicopee Falls, Mass.

BRANCHES:

BOSTON,
604 Atlantic Ave.

SPRINGFIELD,
40 Dwight St.

NEW YORK,
83 Chambers St.

PHILADELPHIA,
916 Arch St.

SYRACUSE,
423 So. Clinton St.

BUFFALO,
28 W. Genesee St.

DETROIT,
252 Jefferson Ave.

CHICAGO,
54 State St.

SAN FRANCISCO,
114 Second St.

THE BICYCLING WORLD

FOUNDED 1877
and MOTORCYCLE REVIEW

In which is Incorporated
the "The Wheel" and the "American Cyclist."

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By

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Change of advertisements is not guaranteed unless copy therefor is in hand on SATURDAY preceding the date of publication.

Members of the trade are invited and are at all times welcome to make our office their headquarters while in New York; our facilities and information will be at their command.

To Facilitate Matters Our Patrons Should

Address us at P. O. Box 649.

NEW YORK, MARCH 27, 1902.

Smiles Replace Sighs.

If the cycle trade has had cause for sighs the sighs are forgotten, for the nonce at any rate. Instead a gladsome and growing smile pervades the cycling countenance.

Two days of glorious, springlike weather preceding a glorious Sunday and two more of like sort succeeding that day sent spirits and business to the bubbling point, and, with the weather still holding true and promising to hold true, they are still rising.

The feeling that has been "in the air" for months and that has been substantially reflected in the order books of manufacturers and jobbers took tangible form. It may be too much and too soon to say that a "new boom" is on, but if ever the Eastern trade has had anything like unto a "boom week" during recent years it has been crowded into the last few days, and "the joy reigns unconfined." The effect is visible on the roads. Its very force is carrying doubters and hesitants with it. The metropolitan press, the tone and attitude of which do so much to influence the tone and attitude of the coun-

try, has caught the spirit and the bicycle is in a fair way of being rehabilitated in its graces. Let these utterances of the New York dailies bearing on Sunday's outpouring speak for themselves:

Tribune: The promised revival of general interest in cycling arrived in this district yesterday with a suddenness and thoroughness which will send the scoffers to obscurity. Everywhere within fifty miles of the city the bicycle was much in evidence and happy faced wheelmen scurried along the roads, breathing the fresh air and enjoying the bright sunshine as some of them have not done before in the last year or two. Wheelmen met on the popular boulevards, compared notes, remarked about how many riders they had seen in the day, expressed astonishment, and then rode on their respective ways. It was an ideal day for wheelmen, and, according to veteran riders, the outpouring of riders was greater than has been the case on any single day not only for the last year, but for the last two years. . . . But the throng of the day was to be found on the ever popular Coney Island cycle paths. The outpouring in the morning was large, and there was a continuous stream of wheels to be seen between Prospect Park and Coney Island in the afternoon. The hotel keepers and the racks at the various roadhouses felt and showed more wheeling activity than has been the case in a long time.

World: Everybody has heard talk of the decadence of wheeling as a pastime. "The craze is over," was heard on all sides. Wonder what the person who believed this thought yesterday, when he saw all the principal rideable thoroughfares crowded by silent steeds. "Looks very much as if the sport will regain its popularity in short order," is just about what passed through his mind. In some sections hereabouts it seemed as if everybody with a wheel or a "truck" found it out.

Sun: Good and sufficient cause was to be found on the highways yesterday for a chuckle and "I told you so" on the part of those who have been predicting a revival of cycling. All roads were wheeling roads, and the crowd out was as big as ever it was on a balmy Sunday in the halcyon days of a few years back. "If it's like this now, what will it be later?" was a query often exchanged by riders. There were plenty of new wheels out, many women, a few tandems, a number of club companies and the inevitable hordes of the small boy flaunting impudent independence and intrepidity.

Of course, we know well that one swallow does not make a summer and that a season's results are not measured by the sales of a single week, and it is not our desire to exaggerate or attempt painting the lily. But we do know that the man who starts hopefully, confidently and well and with buoyant spirits, and the trade that opens a season's business auspiciously is more apt to effect better re-

sults and to "win out" than those that set out under other conditions. The cycle trade has had a good beginning—an uncommonly good one. It is just cause if not for general jubilation, then for general exhilaration, and such exhilaration following a year of doubt and depression is worth that which returns in money, but which money cannot buy.

May the good work go on!

Striking the Iron While Hot.

Now that the public is impressed, and is being impressed, with the fact that cycling has revived and that something in the nature of a "new boom" is on, there was never a time when advertising aggressiveness promised better results.

If the trade generally, makers and dealers alike, will but realize it, the time is ripe to drive home and rivet firmly in the public mind that "the bicycle is itself again."

No mincing, insignificant or half-hearted effort will serve. The iron is hot, and it is time to strike it sledge hammer blows.

Two or three big, bold, straight-from-the-shoulder half pages or quarter page ads. in the local papers throughout the country will carry conviction with them. They will create an impression and exert an influence that is beyond price and that no amount of "store talk" can or will begin to equal.

In spring the fancy turns to thoughts of cycling. There was never a spring when more fancies were turned that way. There was never a time, during recent years at least, when it was possible to turn so much fancy into so much fact. It affords an opportunity such as no wideawake and progressive maker or dealer should suffer to pass. It is one of those times in the affairs of men of which it has been writ "lead on to fortune."

It is the time to strike out—the time to "take a chance." "Nothing venture, nothing gain," is the proverb that applies.

We say "plunge," "splurge" or by whatever term you care to employ, advertise big and boldly and do it now, even though you must needs retrench later in the year. The public mind is now filled with the "revival of cycling"; it is plastic, it is impressionable, it is in a receptive state. See, therefore, that it receives the impression you would have it receive. A few weeks hence and the same mind will become set or hardened and assume the usual I'll-put-it-off-until-next-year condition.

There is no use deceiving yourself with the idea that an inch ad. or a two or three inch one will serve the purpose. The very size of the ad. will exert an influence that is of

vital importance and value. What it says must likewise be considered.

On another page we print a few suggestions to that end. They are capable of contraction or expansion at will, but they convey the germ of the idea which we believe should be uppermost—that a “new boom” or revival is on, but, unlike the old boom, it is an intelligent revival, founded not on a “craze” or fashion, but on the intrinsic merit of the bicycle and the delights and benefits that it holds for mankind.

Use those ideas, if you will, but use some ideas at any rate, and don't hesitate. The man who hesitates may not be lost, but he will lose that which may never return to him.

The Process of Perfection.

It is observed of nearly all new things, and generally with some truth, that it takes time to bring them to a state of even approximate perfection. Sometimes years elapse while this process is going on, and the betterment is so gradual that its completion comes without exciting surprise, and frequently is almost unnoticed.

Some of the 1902 machines which we have examined bear out these remarks in an unusual degree.

A good example is found in the chainless models of a number of concerns. In smoothness of running they equal the best chain wheels; in noiselessness they excel the latter; and in ease of running there is, apparently, little to choose from in respect to either.

The imperfections that were noticed in the early machines—the purring of the gears, which was accepted almost as a matter of course; the tendency of the gears to bind slightly if the rider “jumped” on the pedals too fiercely—have disappeared completely.

A like improvement has taken place in many, perhaps most, of the coaster brakes.

The most carefully designed and constructed ball bearing—the outgrowth of well-nigh twenty years of successful use—is not more perfect.

Coasting, the wheel, freed from the chain and sprockets, runs without the slightest hint of the complicated mechanism that is contained in the hub. Braking, the friction appliances work effectively yet noiselessly and without perceptible jar.

Insensibly we forget the shortcomings we once had to contend with, and take quite as a matter of course the wonderfully improved devices that come into our hands at a later period.

But if we were deprived of the latter for even for a short time we would quickly see the difference.

Converting the Sceptical.

When the pneumatic tire was yet in its infancy, and it was receiving more cuffs than embraces, the surest way to win a cyclist over to it was to give him a ride on a machine fitted with it. A little later, it was said, and with perfect truth, that the only way for a pneumaticphobe to retain his dislike for the air tire was to never try it. One ride was almost certain to transform him from a hater to a lover of the tire.

The time is coming when it is going to be the same way with the motor bicycle. The most enthusiastic praisers of this machine are those who have ridden it and know whereof they speak. Conversely, those who declaim most loudly against it are the very ones who have not tried it, and who consequently do not know their book. To them the motor bicycle is a creature of imagination—a big, heavy, clumsy, dirty, ill smelling, unreliable thing that is always giving trouble and rarely giving pleasure.

This conception is largely a creature of the imagination, of course. Some of the evils complained of vanish upon acquaintance. It will then be seen that the rider is quite unconscious of the dreadful thing he embraces when he mounts a motor bicycle.

As to the unreliability of the machine and the trouble it gives, that, too, is magnified by the non-user. He seizes upon the slightest mishap, exaggerates it and persuades himself that it is the rule and not the exception for such things to happen. And, reasoning erroneously, he builds up a foundation of calamity that is frequently entirely misleading.

But even if this fancied picture were a true one, there is no reason for despair. Troubles have not always been unknown to bicycle riders, and need not frighten them at this late day.

Putting aside the saying that trouble adds spice to the enjoyment of a thing, it is indisputable that comparatively few riders will abstain from motor cycling for the present just because the motor bicycle is not yet perfected. They have only to taste the delights of the new pastime—or this branch of the good old one—to plunge in, resolved to take the bad along with the good. What matter a few mishaps while experience is being acquired, and while along with it goes a greater pleasure than even the most ardent cyclist has yet known?

Had a hold off policy—a waiting for perfection—prevailed in the past the pastime would have been in a deplorable condition. High wheels might still be ridden by a venturesome few, or solid tires or sixty pound machines. But they had their day, and their successors were in time perfected.

Men who Will Earn Profits.

For nearly three years The Bicycling World has pointed out to dealers the importance of getting in touch with the motor bicycle. Many took the advice, but the majority let the matter slide, under the impression that there was nothing in it. Now that a start in motocycling has been made the latter will be unprepared to cater for motocyclists, and the wise ones who took time by the forelock will secure the cream of the business.

The public will not deal with men who have manifestly no experience, and who cannot advise or help them in their troubles. It is, therefore, absolutely essential that agents who wish to secure a share of this business should ride motor bicycles themselves, and so learn by the only way possible—that is, practical experience.

A season's experience of this kind will make them pretty well conversant with the subject, and will give them a chance of doing trade, even though competitors may have got ahead of them.

Sooner or later the trade will be a large one, and no agent can rely on being able to retain his customers, even although they may have been dealing with him for years, if he is not able to assist them in this matter.

The Saddles in the Ascendancy.

As The Bicycling World early prophesied would be the case, the hammock, or suspension, type of saddle is proving the saddle of the year.

Its rising popularity, though long delayed, is richly merited, and is but another sign of the return of cycling common sense.

There is this, however, to be said: A good hammock saddle is a comfort and joy, a poor one an abomination. Both are on the market, but there is small excuse for the man who selects the latter. We can call up nothing that so plainly betrays its “cheapness” and lack of quality as a poor saddle of the suspension type.

The line between the good and the bad is so distinct that a blind man can almost see it. But, sad to tell, there are some mighty poor ones on some mighty good wheels.



MODEL 74 PRICE \$30.00

Orient Bicycles

KNOWN THE WIDE WORLD OVER.

WRITE FOR HANDSOME NEW CATALOGUE

APPLY FOR AGENCY

WALTHAM MFG. COMPANY, WALTHAM, MASS.

CENTRALIZE YOUR EFFORTS.

INCREASE YOUR PROFITS.

"Buffalo, Sr." AUTOMOBILE.

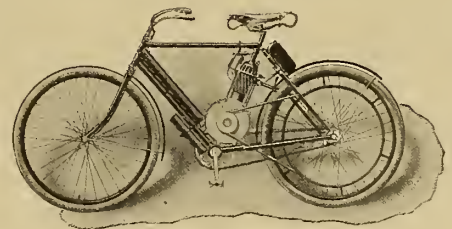


Model 7. Price, \$800.

**Especially designed for
PROFESSIONAL MEN,
BUSINESS MEN,
and FAMILIES.**

If you are an ambitious dealer our line of 2 Automobiles and 3 Motor Bicycles completely fill your demands. Your customers, too, are met at every turn; any purse, any call upon you, is turned to your profit. Our prices, quality and wide selection of models in each, place you beyond your competitors. This year is big with opportunities. We offer you 5 chances at them to any other manufacturer's 1.

"Auto-Bi" MOTOR BICYCLE.



Model 4. Price, \$175.

This has $2\frac{1}{2}$ I. H. P. Motor and is belt driven, which is the FAVORED TRANSMISSION FOR MOTOR CYCLES.

Write for details, protection, guarantee and prompt delivery.

Our goods carry with them the largest experience.

WE USE E. R. THOMAS MOTORS ONLY, THEY ARE MOST EFFICIENT.

BUFFALO AUTOMOBILE & AUTO-BI COMPANY, 1200 Niagara Street, Buffalo, N. Y.

REFUTING A CALUMNY

Lowell Editor Severely Scored for Unjust Attack—Cycling Still Flourishes.

There's a nice how-d'ye-do in the old Bay State, and all about the bicycle. Has it really gone, never to return, was it a bad thing while the craze existed, and is its supposed demise a cause for thankfulness? These views, held by one Lowell paper, and openly expressed, have aroused a storm of protests and involved the offending journal in a series of controversies that will last it for a long time.

The article which caused all the trouble appeared in the Lowell News. The appended extracts will show the wild and quite indefensible assertions the editor has been betrayed into:

"It seems a long time ago when the talk was all about the wheel, but this year there is no talk at all. The dealers are not going to advertise the bicycle, because there will not be any demand for them. The man who appears out in the public streets nowadays is looked very much as a freak, and the woman who would have the hardihood to appear out in one of those costumes that were the vogue but a season or two ago would run the risk of being hooted to her home, if the police didn't gather her in.

"Never did a fad so popular as wheeling was go out so quickly; and it has gone never to return. Most of the factories that turned out bicycles have been converted into typewriter factories or some such virtuous employment.

"The departure of the bicycle should not be regretted. For certain uses it may be in demand for a season or two longer, but its opportunity for harm to the morals of every community where its use had got to the fad stage is gone. And the bicycle did bring about a great deal of harm by inducing all kinds of mixed company along the country roads and other quiet places after dark. It has been charged that the wave of crime that has broken out all over the country has had its origin traced to the bicycle excursions of a few years ago. We do not know that there are young persons who can trace their downfall to the license allowed to them while they were out bicycling. So, good riddance to the bicycle. May it never come back!"

The tirade led the Salem News to take up the cudgels in behalf of the much maligned bicycle, and, as will be seen, it counters in effective fashion:

"Truly, a marked difference is to be observed between the status of the bicycle trade at present and that of a few years ago. But in casting about for the primal cause of the decline, especially so far as that decline bears upon the use of the wheel for mere pleasure riding, so called, the interested observer must look, we think, beyond the fickleness of popular patronage or the immorality factor to which our contemporary has referred.

"The fact is now generally conceded that there is no agency more responsible for the diminution of the bicycle in public favor than the bicycle trust itself. Immediately the combination had been effected whereby private enterprise in this quarter of industry was practically stifled, the trust magnates set about those economies which are generally to be counted upon, not so much for the sake of relieving the customers as for the profit of the trust.

"But there are wise economies as there are also injurious economies. The trust, as things turned out, elected upon the latter. In the aggregate a vast amount of money was annually devoted to advertising of bicycles. This meant, of course, corresponding attention to the bicycle field and to affairs that appertained to the sport or diversion or whatever one may term it. With the production of bicycles in their own hands, the trust managers imagined they saw a glorious opportunity to effect a tremendous saving, while teaching an object lesson to the companies that had been so liberally patronizing printers' ink, by cutting off the advertising item.

"There is not the slightest doubt that the trust managed to effect a saving, and a huge one, for a while, but at what a blow to the industry! Public indifference quickly made itself manifest. The various organizations, big and little, soon felt the effect of the rapidly increasing defections from membership. The papers and magazines that had accorded liberal space to the presentation of bicycle features were not blind to the change, and space thus utilized was given over to other matters. Dry rot set in, and in spite of itself the bicycle trust saw business slipping steadily through its fingers—those fingers which had been wound so tightly, as it was presumed, around the pocket-books of the bicycle public.

"We have not the time to elaborate upon the exhibition, but it will suffice to say that if any evidence were needed to convince the skeptic of the dependence which now must be placed upon advertising, properly conceived and judiciously handled, the bicycle trust has made a very thorough demonstration, and the lesson thus taught will not soon be forgotten.

"As for charging up a grievous volume of immorality to the bicycle, it is easy indeed to exaggerate. For our own part, we do not hesitate to express the conviction that the Lowell News has greatly magnified this feature.

"It goes without saying that a proportion of the people who turned to the bicycle for the mere riding contributed alike to moral demoralization and scandal. But in proportion to the great mass of riders, this particular representation was small indeed. Fad though bicycle riding has been, there is yet a big and a wide field for the employment of the wheel for practical purposes. A legion of riders will therefore continue to utilize the agency thus afforded for speedy and at the same time economical and pleasureable communication.

"It is too early to say goodbye to the bicycle, for its grip upon general favor is yet firm, and there is no telling when it will finally be relaxed."

Other Massachusetts papers have hastened to take part in the fray. The Lawrence Eagle, for example, pays its respects to the Lowell paper in this fashion:

"Now, we do not pretend to know the full condition of affairs in Lowell, but for a general statement the above is far too sweeping. The bicycle is far from being a thing of the past, as is fittingly illustrated by the large number of wheels seen on the streets at this very early part of the season. It is true that the number of wheels sold at present is smaller than was the case some ten years ago, and the place of the bicycle has also changed somewhat. It is no longer used for pleasure riding so much, but in business it is used to a far greater extent.

"As for the argument that a wave of crime was caused by the bicycle and that many young people owe their downfall to the bicycle, that is all bosh. Crime may have been facilitated by the bicycle, but the same charge can be brought against every improvement in transportation that has been made during the last twenty years. If the bicycle is to bear the blame, the electric street railways, the ever increasing number of pleasure resorts and even the livery stables, which so freely let equipages, should also bear a share.

"It is safe to say that the editor of the Lowell News never has been a bicycle rider, for had the case been otherwise he would not have taken such a ridiculous view of the situation."

Then the Brockton Times and the Newburyport News relieve their minds. Says the first:

"It may be true, as the papers are saying, that the bicycle has passed, but the interesting advertisements of the Brockton bicycle dealers that appear in the Times show that the trade is still prosperous in this city, and that there is a legitimate use of the wheel that is a permanent feature."

The Newburyport journal is but little behind its contemporary of the Shoe City, for it remarks:

"The Lowell News speaks of the departure of the bicycle, as if the vehicle was something of the past. We did not know the bicycle had departed, and do not believe that it has, though it is not used as much for pleasureing as it has been in the past. It has its solid, practical uses, and will be a means of convenience for a long time to come."

The symposium is well closed by another Lowell paper—the Sun—which says that the local bicycle stores, even this early, are thronged with actual and prospective purchasers.

From all of which it is pretty evident that, (1) cycling is not dead in Eastern Massachusetts; and, (2) that the papers of that populous section are quite able to defend the pastime when such attacks as that of the Lowell News are made upon it.

DIRECT CONNECTED

How one Designer has Combined the Inlet Valve With a Pulverizing Mixer.

A combination of the pulverizing type of carburetter and the mixing valve is a construction that more than one motor bicycle designer has had in mind as a possible refinement. An Englishman, A. Gower by name, has designed a carburetter of this kind, the details of which are shown in the accompanying illustration.

The device consists of a casing within which the inlet valve moves and seats at the lower end. Just above the inlet valve a series of perforated diaphragms are arranged and adapted to act as baffles atomizers. At the upper end of the valve stem a small needle valve is inserted so as to slide axially therein, it being kept in an outward position by a small spiral spring, its range of movement being controlled by a slot in the stem of the inlet valve upon the uppermost diaphragm. The inlet valve is kept closed by a spiral spring outside the valve stem.

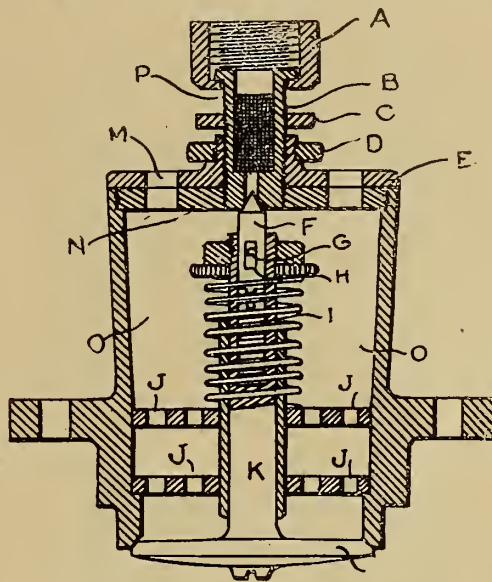
Just above the needle valve is a valve seat formed at the end of the pipe connection to the gasoline tank. This seating is made adjustable to and from the needle valve, so that by the action of the spring the needle valve may be timed to open more or less later than the inlet valve, in order to regulate the character of the explosive mixture.

At the upper part of the casing a perforated cap is fitted, and above this cap a rotating plate is provided, also perforated, the perforations being arranged to coincide with each other in one position, and to be eclipsed by the intervening metal in the other position. The object of this arrangement is to regulate the amount of air drawn in at each stroke, and the suction for any given amount also affects the amount of liquid or gaseous fuel drawn in by such suction, a matter quite apart from the adjustment of the needle valve. A dust cap is fitted over the perforated cap so as to prevent dust being drawn into the engine.

The gasoline passage just above the seat-seating of the needle valve is packed with filtering material, such as wire gauze, to prevent any solid matter getting down to block the needle valve. The bafflers, or atomizers, being made in such a manner that when the suction takes place the explosive mixture is given a twist in its passage, and the liquid is broken up into such a fine spray against the atomizers that it becomes a vapor, and therefore a perfect mixture. The carburetter, being combined with the inlet valve, is kept warm by the engine, this preventing any possibility of freezing in cold weather.

The device is undoubtedly ingenious and compact, and if the claims made for it are fully borne out in practice it should meet with large use.

The key to the diagram shown is as follows: A, union; B, adjustable seating; C, D, lock nuts; E, air adjusting disk; F, needle valve; G, pin through needle valve; H, slot through valve stem; I, spring to keep needle



valve against seating; J, Atomizers or baffle plates; K, valve stem; L, valve; P, filtering gauze.

Two Different Ideals.

Big tires sideslip more than little ones, it is said. The smaller the surface coming in contact with the ground the greater will the stability of the machine be. That is theory number one.

In a motorless bicycle—to use a term that has much to recommend it on the scores of brevity and comprehensiveness—a resilient tire is of the first importance. To obtain the quality of resiliency many evils will be endured. Matters are just reversed when it comes to a motor bicycle. There resiliency counts for little; reliability and durability quite overshadow it. That is theory number two.

Building up from this hypothesis, it is argued that the ideal motor bicycle tire should be constructed on lines totally different from those which have approval where ordinary tires are concerned.

The motor bicycle tire should be small, but not resilient. It should be composed of many thicknesses of canvas—canvas that will be more than a retaining wall for a certain amount of compressed air. Furthermore, the section of the tire should not be perfectly round. It should be concave, so that the tread will be very narrow. Then it will grip the ground, and even on the slipperiest, slimmest road a motor bicycle will be kept upright without any great amount of trouble.

It is an ingenious theory, and one that is not lacking in a considerable amount of probability.

One strong advocate of the motor bicycle recommends sitting low on them so that the feet can be used as a brake in an extreme emergency.

WAYS TO CONTROL

The Handlebar Switch Should Only be Discarded When the Mixture is Throttled.

Motor bicycle makers and users should make every effort to check any tendency that may crop out toward discarding the handle bar switch and placing it in some other position on the machine. In the opinion of many the grip switch is almost essential to the perfect control of a motor bicycle, in order that the rider may have the power of stopping the motor from working at a moment's notice without taking the hand off the handle bar.

Of course, it can be argued that doing away with the grip switch simplifies matters and reduces the risks of short circuits, but perfect control in emergencies is of greater importance. To merely put the switch in another position, to reduce wiring, only entails a loss of time in removing the hand from the handle bar, and this may make all the difference between safety and danger. In traffic or on greasy or rutty surfaces the changing of the position of one hand is bound to be inconvenient, if not worse.

There is another point, too, which is deserving of notice. Undoubtedly the most economical and best way of driving a motor bicycle is to regulate the speed very largely by means of a throttle acting between the mixer and the motor to cut down the supply of gas. This throttle should be worked by a connection running to one of the grips. The handle bar switch might then be discarded with safety, because the motor could be stopped by throttling the mixture.

There are other advantages just as great. By the slightest movement of the grip the rider could regulate the pace to the greatest nicety. He could make it absolutely uniform, even over varying surfaces, and crawl in traffic, and at the same time always have the power of suddenly rushing forward. This cannot be accomplished as satisfactorily by means of a lever on the top tube, because with the machine jolting along it would be nearly impossible to strike the exactly correct position.

Apart from these advantages the driving by means of a throttle economizes gasoline and helps to prevent the motor getting overheated. As regards absolute comfort, too, it is far pleasanter to move along at a uniform pace than with sudden accessions and reductions of speed.

On account of the risk and inconvenience entailed by steering with one hand in tricky places, many motorists adopt the practice of checking their speed by switching on and off the current. This is a very unworkmanlike way, and results in the machine proceeding forward by a series of spurts and slows, distressing to the rider, and not calculated to impress the public very favorably. These sudden spurts, too, are exceedingly likely to set up side slip.

CYCLING'S CHIEF ENEMY

The Part the Wind Plays in Making and Marring Pleasure.

The arch enemies of the bicycle, the twin evils which have done more to harm the pastime than everything else combined, are, beyond the shadow of a doubt, hills and head winds.

Of the two it is not easy to say which is the worse. Perhaps the more accurate way is to put it thus: In warm weather the hills are the more harmful, while at other times it is the winds which do most to kill enthusiasm and spoil enjoyment.

To a good rider there is a decided pleasure in hill climbing, provided the hills are not too long and steep or of too frequent occurrence. The grade is in plain sight, and the rider can watch the progress he is making in climbing it. The summit gets nearer and nearer with each push of the pedals, and there is always the knowledge that when it has been reached there is a level stretch or a down grade beyond. A few more revolutions, a push over the top, and rest succeeds effort.

But with a head wind it is very different. The rider cannot see it. It is an invisible foe, against which he must constantly strive and never vanquish; never, that is, while he keeps his original course.

It presses against him constantly, vitiating his efforts, clogging his progress. Weights appear to be attached to his feet, the tires seem to drag, the machine to run hard. Up hill it is fierce work, yards gained only after desperate work; on the level it takes grim, persistent plugging, seemingly without adequate result; and even downhill there is none of the glorious exhilaration that should attend a descent.

It is frequently possible to avoid hills; at the worst they can be walked. But the head wind cannot be escaped, scarcely mitigated. A frontal attack is usually the only method of attack.

Could it be eliminated from the cyclist's horizon, or even reduced appreciably, the pastime would take on a new aspect. It would make riding an everlasting delight where it is now an intermittent one. It would bind present riders to the pastime with hooks of steel, recall those who have strayed away, attract still others who have never become devotees of the cycle.

Obviously, the motor goes far toward solving the problem, settling the vexed question. In this fact lies much of its strength. Its future growth will be largely attributable to it.

But there are plenty of people who love the pedal driven bicycle for its simplicity, its lightness, the opportunity it affords for much needed exercise. To them the head wind is an enemy of long standing, one that does not improve on acquaintance; in fact, it

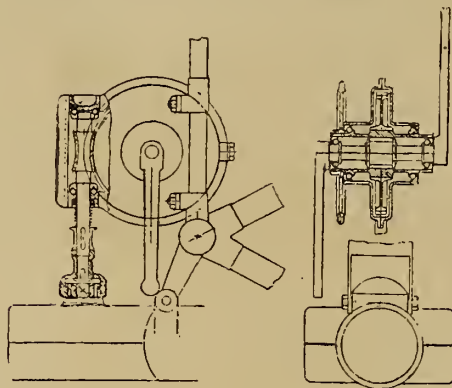
becomes worse. To such riders the motor would be acceptable only as a choice of two evils.

Perhaps the best thing about head winds is their infrequency during the greater part of the season.

Driving With Worm Gear.

In the report that appeared in *The Bicycling World*, February 27, of the paper read before the Cycle Engineers' Institute there appeared a brief mention of a worm gear drive that had been applied to a motor bicycle. As the means of driving is generally regarded as a thing yet to be worked out, anything in this line is interesting.

The mechanism mentioned has been constructed by William Starley, of Coventry, England, and is shown herewith. It will be seen that the motor is placed in front of the hanger of the bicycle, with its shaft extend-



ing aft. The end of the shaft carries a flexible coupling, which engages with a double threaded worm running in an oil bath gear case. This worm has a ball thrust at either end. The worm engages with a worm wheel mounted on a ball bearing sleeve, surrounding the pedal crank shaft, and driving the rear wheel by a chain.

It is claimed that great efficiency is got out of this drive, while the angle of the worm gear is such that the worm wheel can drive the worm, thus allowing of the rider starting the engine by pedalling in the usual way. This device is attracting a great deal of attention among motor engineers, and may soon be heard of as applied to a standard type of motor bicycle.

About Crank Lengths.

The question of long cranks exercised the mind of the cycling public even prior to the days of the safety. About the year 1885 there was a considerable discussion on the matter, and it is within memory that 7-inch cranks were used on 54 and 56 inch ordinaries. Those who tried them found them too long and discarded them. Needless to say, the ratio between 7-inch cranks and a 56-inch wheel was much greater than that recommended nowadays by the long crank advocates.

The Dublin (Ireland) Motor Cycle Club was organized on March 7. One of the charter members rode thirty-eight miles to attend the meeting, and started back at 10 p. m.

FIXED OR FREE

Why Both Gears are Likely to Remain—Peculiarities of Riders.

In contradistinction to the safety bicycle and the pneumatic tire—the two other epoch marking improvements in the two wheeled machine—the coaster-brake has not carried, and will not carry, the entire cycling contingent with it.

Both of the two revolutionizers mentioned sounded the death knell of what had preceded them. No more "ordinaries" or high wheels were manufactured after the safety had been in use a few years; and the air tire drove out every other species, notwithstanding the fact that cushions which were a greater improvement over the solids than were the pneumatics over these cushions came on the market and were extensively used. High bicycles have been almost forgotten. Solid and cushion tires are scarcely even a memory.

The coaster-brake has been in general use too short a time to have driven out fixed gears, even if it were possible to say that the handwriting was on the wall. They have, however, grown steadily in popularity, and are still doing so. It is easy to see that the time is coming—and it is not so very far off—when they will be castly more coaster-brake machines in use than of the older style.

But it is equally apparent that the fixed gear machine is not going to disappear, as did the high wheel and the earlier forms of tires.

There are riders, and a considerable number of them, who will always set their faces resolutely against coaster-brakes. With some of them this attitude is due to prejudice. They decide the case without giving both sides a fair hearing, listening to the arguments against the new device and turning a deaf ear to those which might be offered in its favor. They don't want to hear, or perhaps it would be fairer to say to weigh, the latter, consequently their judgment is a biased one.

But it must be admitted in all fairness that there are others who are fair and yet who arrive at the same conclusion. They don't want coaster-brakes. They never coast and they dislike brakes of any kind. Mileage is the god of many of them, and pitted against such an adversary coasting has little or no show. There remains still another class that belong to neither the scorching brigade nor the mileage fiends. They prefer the fixed gear because—well, because they do. Sometimes they have reasons to give for this attitude, sometimes they have not. They prefer the fixed gear, with the feeling of confidence that comes from it, the regularity of the crank movement that goes with it. The alteration of the free and fixed crank worry instead of pleasing them.

Perhaps it is just as well that there exists such a diversity of opinion. The fixed gear has had a glorious existence, and it would be a pity to have it disappear.

OPPORTUNITIES IN FRANCE

Makers are Specializing Small Motors— Using American Parts In Rough.

One phase of the motor industry in France, which is of interest from the long experience had in that country and that ought to make for the profit of American manufacturers of machinery and parts in the rough, is the tendency in that country to specialize the construction of not only the motors, but also the parts.

In times past the business was entirely in the hands of a few makers, who saw that it was to their interests to encourage the use of small motors by giving every facility to fit them, and this policy has had an excellent result in bringing out a number of small makers, who find it is worth their while to build with mechanism which they can procure under very favorable conditions.

The prosperity of motor firms, as seen in the way in which they have been enormously extending their plants, has brought a considerable number of new makers into the field. New motors are being designed almost every day, and the demand for them is increasing more rapidly than the supply.

Not only are they required for light carriages, but the motor bicycle is becoming extremely popular, and for these machines alone there is no doubt that many thousands of motors will be required before long. This at least may be inferred from the heavy run upon the firms who are making a specialty of motor bicycles. They have so many orders in hand that they cannot accept any more for delivery in less than a couple of months. Even this source of demand will be worth the attention of makers.

As buyers are clamoring for motors, there is a decided tendency to supply them more cheaply, though why this should be so is a little puzzling, unless it be that the many new firms who are coming into the market are trying to cut out the established makers, who, in their turn, are so far reducing the cost of manufacture as to be able to supply the motors at a lower price. Motors of the highest reputation, with accessories all complete for fitting to a bicycle, do not cost more than \$100, and others can be obtained for a good deal less.

Now that makers have not the slightest doubt about the genuineness and permanency of the demand, they do not hesitate to go to any expense for increasing their output. This, however, is not always to be done satisfactorily by laying down extensive plants for turning out whole motors, because the cost of bringing the raw material from different parts of the country to be worked up at one factory adds, in a no small measure, to the cost of manufacture, while the work itself can often be done much better in the districts where the raw material is produced. In the foundry districts, for instance, the work of

casting cylinders can be done more skilfully and more cheaply than in Paris, where there is not such a good selection of labor.

One of the wealthiest and most enterprising makers of small motors, who could very well afford to lay down big plants of his own, has fully grasped the importance of specializing his motor parts if he would keep pace with the demand for motors and supply them under the best possible conditions. He is consequently getting his cylinders from iron founders in the Ardennes, his crankshafts from other big manufacturers, and is we believe, purchasing the pistons and piston rods in America. His big factory in Paris, therefore, is merely engaged in manufacturing minor accessories and fitting up the parts. Not only does the work come cheaper, but the specializing of manufacture insures better quality of material and workmanship, and the fitting is done with the greatest ac-



NEW YORK BRANCH: 214-216 WEST 47TH STREET.

curacy. The maker finds this experiment so successful that it is bound to be largely adopted by other French firms who have to supply a very large demand, though it would probably not prove so satisfactory to makers of big automobiles, who only turn out something like two hundred motors in the course of the year.

This specializing seems to open up great possibilities of trade for American manufacturers. The fact that they should be supplying pistons and piston rods to a French maker shows that their superiority in this article is fully recognized, and there is no reason why they should not be equally successful in building up a foreign trade in other parts. American castings are admittedly much better than are those in France. They are cleaner and lighter, and the material is of a superior quality. This is proved by the success of American agricultural machinery, and the qualities which have done so much for American trade in such mechanism should also enable manufacturers to build up a very profitable business.

ROLLER CHAIN REVIVAL

Sherman Says it is Coming Sure and That its Influence is Already Felt.

"Roller chains are coming in again. Stick a pin in that prediction and see how true a prophet I am," remarked George W. Sherman, the Hendee Mfg. Co.'s prize motor bicycle persuader, to The Bicycling World man the other day.

"Oh, you needn't look incredulous. It's coming, and before the season is out nearly every maker in this country will be furnishing roller chains. Most of them will be of the one-half inch pitch variety, too, as there is every reason why that, instead of the old fashioned inch pitch, should be used, as was the case when roller chains were in vogue ten years ago."

"You don't mean on the ordinary pedal driven bicycle, do you?" said The Bicycling World man in surprise. "You mean they will be used on motor bicycles?"

"No, I don't, either," was the emphatic reply. "They will be fitted to both classes. Their superiority is most pronounced on the motor machine, of course, but if they are good for one they are good for the other."

"The trouble heretofore has been that the roller chains were hard to get. But now nearly every chainmaker in the country is taking them up and making and cataloguing them. And by next season everybody will be furnishing special sprocket wheels for them, and there will be nothing to retard their use. You see, for the one-half inch pitch chain the sprocket has just double the number of teeth that is required for the ordinary chain."

"But it is not necessary to have a special sprocket wheel with the extra teeth," interposed another of the party. "I have been using a half inch pitch roller chain for a couple of years, and I put it on my regular sprocket wheel intended for the regular block chain. It fit all right, of course."

"Yes, but only one-half the links engaged the teeth," responded Sherman. "The other half were idle. Still, that's another good point. It means that you don't have to change the sprocket wheels to fit a half inch pitch chain if you don't want to. At the same time it is much better to do this, for then all the links are doing their share of the work. That's better than to have some of them shirking it."

"To go back to the roller chain. Riders will find that it will run better, wear better and make less noise than a block chain. Oh, you need not smile. I mean just what I say, and time will prove that it is the truth."

Hartford's two new Tires.

The Hartford Rubber Works has added two motor bicycle tires to its line—one, a Hartford, of course, the other a Dunlop.

Retail Records.

Caro, Mich.—Knapp & Watson, new firm.
Oregon, Ill.—Charles Murray has opened store.

San Jose, Cal.—A. Smith, building new shop.

Cohasset, Mass.—Edwin Souther building addition.

Duncannon, Pa.—I. W. Bashon, building new shop.

Franklin, Pa.—Sylvester Logan succeeds Frank Steele.

Middletown, Conn.—George W. Lane has opened store.

Vineland, N. J.—A. L. Aumack has moved to new store.

Adams, Mass.—William Kirkpatrick has opened store.

Chateaugay, N. Y.—G. W. Foster succeeds Keefe & Chase.

Sydney, C. B.—Compton Bros. opened store in Charlotte street.

Cohocton, N. Y.—Charles Buckstaller succeeds John H. Lyon.

Westboro, Mass.—H. A. Sawtelle will open store on South street.

Hudson, Mich.—Frank A. Knapp will open store on Church street.

Manchester, Conn.—Richard Wilson opened store on Depot Square.

Maynard, Mass.—A. B. Brochu opened store in Darling block.

Auburndale, Mass.—G. Fred Pond opened store in Auburn street.

Trenton, N. J.—W. L. Howard has opened store at 119 Perry street.

Paterson, N. J.—Charles B. Vaughan, new store at 193 Ellison street.

Branford, Conn.—B. M. Prescott has opened store in Toole block.

Salem, Mass.—Charles Falls & Co. opened store at No. 5 Liberty street.

Westfield, Mass.—A. J. Corneau opened store at No. 29 Church street.

Dryden, N. Y.—E. E. French and E. E. Banfield succeed J. R. French.

Lemoville, Cal.—Ray Winsett and Albert Wilson succeed L. L. Rogers.

New York Mills, N. Y.—Edward Cronk will build new store on Elm street.

Pittsford, Vt.—Harley R. Howland has opened store in Mechanic street.

Philadelphia, Pa.—Harry Knollman, 1328 Fairmount avenue; fire loss, \$500.

Freeport, N. Y.—Roscoe Conklin succeeds E. A. Dorlan and moved to Fulton street.

Sherbrooke, Que.—E. & W. Burton succeed S. S. McDonald at 118½ Wellington street.

Ware, Mass.—Jip Yell moved from West Warren and opened a store on Worth street.

Ballston Spa, N. Y.—William J. Knickerbocker succeeds Tracy W. Nichols, Washington street.

Comparing Petrol and Alcohol.

Comparative trials of the working of an internal combustion motor with petrol and alcohol were recently made in France. While the motor was water cooled and of about twice the power used on bicycles, the results are interesting, as being with single cylinder and electric ignition.

The bore was 3.78 inches by 2.94 inches stroke, the normal speed being 1,000 per minute. The petrol used had a specific gravity of 0.68, and the alcohol was ordinary commercial alcohol of 88 to 90 per cent purity. The horsepower was taken with a prony brake. The average of the result gave 4.12 brake horsepower with petrol, and 3.89 brake horsepower with alcohol. With petrol 351 gr. per brake horsepower hour were consumed, and with alcohol 691 gr. per brake horsepower hour. This is equivalent to 3,861 calories absorbed with petrol, and 3,904 calories with alcohol per brake horsepower hour.

Where the Motor Bicycle Scores.

There is an attraction about the motor bicycle which neither the tricycle nor the car affords, says a past master in the art of motocyling. The smoothness of motion, the freedom and the independence are fascinating; in fact, from a pleasure point of view, it possesses some of the best qualities of the motor car and the pedal propelled machine. It is the most economical description of motor on the market. It is simple; it is easy to manage with a little experience; it is exceedingly free from vibration; being a single tracker, it is most suitable for districts where the roads are bad, and, finally, it possesses one great advantage which no other motor vehicle can boast of, and that is if it breaks down it is easy to pedal it home or to the nearest railway station.

RACING

"Major" Taylor sails this week for Europe. He declares it will be his last year on the track. Incidentally, he was married on the 22d, his bride accompanying him abroad.

Walthour made his first appearance since his accident at Atlanta on March 20, where he defeated Lake by winning two straight heats in a five-mile motor paced race. Walthour's time for each of the two heats was 8:19. There were four thousand people present.

Despite his age, "Bill" Martin is sighing for new worlds to conquer. Australian advices state that he will race in Germany, Austria and Italy this summer. As France does not appear to be on his itinerary, it is not likely that he will meet Lakes, Taylor, Stinson or any other of his fellow Americans who will race abroad.

William Palmer and George Sutherland, two Australian cracks, are en route to Frisco. They will race on the Pacific Coast, and if they find themselves able to hold their own will come East and follow the National Circuit. Palmer comes with a reputation of being one of the few men who have floored "Bill" Martin in a fistic encounter, and is described as being "game to the backbone and without the least taint of 'skite,'" whatever that may be.

In France, where the motor tricycle has had a vogue that can hardly be appreciated in this country, a remarkable increase in speed has been attained with this form of machine in the last two years. Osmont, of tricycle racing fame, recently established a record that may stand for some time, as that machine is gradually losing favor. On a very heavy road he covered 62 miles 243 yards in 1 hour 16 min. 55 secs., the last half of the distance being covered in the notably fast time of 36 minutes. This beats the previous record by 2 minutes.

1902
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TO COLOR AND HARDEN

Case Hardening Expert Gives Recipes he has Used With Success.

If we wish to give a nice color to our work, writes an expert on case hardening, it is necessary first to polish it and to be sure it is clean when packed in the hardening box. Use the following mixture when packing: Ten parts No. 1 granulated raw bone, two parts bone black, one part granulated charred leather; mix very thoroughly before using. The results will be much more

is advisable to attach a piece of iron binding wire to each piece when we pack the work, allowing the wires to hang over the sides of the box. When we remove the box from the fire the articles can be removed from the box and immersed in the oil by means of the wires. They should be worked around well in the bath until the red has disappeared, but in such a manner that broad sides are not moved against the cold oil, or the article will be liable to spring. In the case of a long, slender piece, work it up and down, moving sideways each time, so as to come in contact with the cool oil and get away from the vapors that are formed, as they hold the

granulated charcoal, run five or six hours if the gauge is one-quarter inch thick or over. Run at a very low heat and dip in the oil bath; it will be found to be very hard, and probably straight.

In hardening small pieces it is advisable to use a small box, as it takes some time to heat a large box through; the pieces on the outside will be much harder than those nearer the center. After hardening we should dry the bone used in packing. It is not only useful for packing articles we do not wish very hard, but is excellent to use when annealing cast iron that will not soften when packed in clear charcoal.

ADS. APPLICABLE TO THE MOMENT.

THE BICYCLE BOOM IS ON AGAIN.

But it is not the same sort of "boom" that prevailed a few years ago.

It's an intelligent boom this time.

People are not buying blindly or riding bicycles simply because it is the fad or fashion to ride them, nor to see how far or how fast or how many miles they can ride.

They buy and ride because they now realize that the bicycle is a health-giver, a pleasure-promoter—because there is nothing else that affords such an invigorating, convenient, exhilarating, every-ready and economical means of obtaining that outdoor exercise and change of scene that counts for so much in the well being of mankind.

The people now indulge in bicycling because it is a tonic—because it enables them to think clearer, hit harder, sleep sounder and feel better generally.

The causes of the "new boom" ought to interest and awaken YOU and impel you to learn why so many of those who have renewed their cycling activity have purchased bicycles. We are in position to both tell you and show you why they did so; and we'll be awfully glad to do it, too.

About the Bicycling Revival

"Revival" is what many of the papers term it; and it is a pretty good description of it, too.

Nearly every one is talking about it. Like as not you yourself have remarked it.

"Never saw so many people riding bicycles or heard so many talking of riding them for many years," is probably the way you expressed it.

But do you you realize that the ——— bicycle has had much to do with the widespread renewal of interest. If not, "it's up to you" to learn it and we are ready to impart the information and show you some of the many improvements and innovations in bicycles that make cycling more comforting and delightful than it ever was before.

Ask yourself these questions:

Why grows your cheek so pale
Your circulation poor?
Why from dyspepsia ail?
Why try each quackery cure?
Can nature not be true?
Does she not offer you
The panacea for ill?
Think, then, how you would thrill
If poised upon a wheel.

It is because many others have put the questions to themselves that the "bicycling revival is here."

gratifying if we pipe into our bath, placing the end or outlet near the bottom. By means of an air pump of some description force a jet of air into the water in such a manner that it will be distributed throughout the whole tank, in order that each piece of work may come in contact with the air as it passes through the water. When articles are hardened by the first process mentioned, heating in fire and treating with cyanide of potassium, very nice colors can be obtained by taking a piece of pipe, putting it in the bath and blowing through it, passing our work through the air in the water when we dip it.

When the articles are thin and must be very hard yet tough, it is best to use a bath of raw linseed oil. If this bath is used it

oil from the work, thereby preventing hardening.

In many shops it is customary to make snap gages of machine steel. They are much easier made, the cost of material is less, and if hardened properly they will wear well. It is best in cases of this kind to use open hearth steel rather than Bessemer, as the latter runs so uneven. When charging in the furnace, some pieces will harden to a depth of one-sixteenth inch if run four or five hours, while another piece one inch thick will harden entirely through in an hour. Open-hearth steel runs very uniformly when hardening, according to my experience. The best results will be obtained if we use granulated charred leather instead of bone. When packing mix with an equal amount of

Irish Inflation Opened his Eyes.

An old timer, commenting on the item in last week's *Bicycling World* anent the early reception of the pneumatic tire, has this to say:

"The cautions that were given against overinflation for fear of bursting led all the earlier users to ride with flabby tires. This naturally made the machine slow, and I can well remember the surprise I felt when I saw the attendant of the Irish party at the Paddington championships, in 1890, pumping up the tires to a hitherto unthought of hardness. This explains the referred to alteration in a week.

"Some men possessed pneumatic tired machines or sets of wheels for use on grass and rough tracks, and others with solid tires for use on good tracks. The Irish pumping was a revelation, they inflated their pneumatic tires properly, and then for the first time we recognized the just merits of the tire."

UNLIKE OTHER BURNERS

One That Promises Great Improvement of Gas Lamps—What it is Like.

In the new burner which they are fitting to their newest model Columbia lamp, and which may be applied to any of their older models, the Hine-Watt Manufacturing Company, of Chicago, believe they have an improvement that is of inestimable value to gas lamps. It differs from any other acetylene gas burner in that it is separable into two pieces. The top piece which holds the lava tip snaps over the broad top of the shank part of the burner, leaving a large inclosed space underneath the lava tip.

The great trouble with all acetylene burners has been their liability to clog. This clogging is caused in three ways—one by the dust being carried into the burner with the gas, another by incomplete combustion, which causes the burner to carbonize, and the third by a sticky deposit, which is composed in part of a salt of lime, and which has some of the physical properties of tar.

This deposit is very annoying, as it collects inside of the burner. When the burner is being cleaned with a wire, and therefore when it is cool, the gas hole and the air holes are apparently free and open. If, however, the burner becomes heated this sticky deposit will run like molasses and stop up the holes in a short time. It was to avoid this difficulty that the Hine-Watt Manufact-

uring Company designed their new burner, which has been thoroughly tested, and under heretofore prevailing conditions has proved very satisfactory and reliable.

The primary object in making the burner in two parts was to make it possible and easy to clean the inside of the burner with the point of a knife. It has not so far been found necessary to clean the burner. It is practically impossible to thoroughly clean an acetylene burner unless it is separable so that the interior of the burner can be easily reached.

The new Columbia burner may possibly stop up in the course of time, and if this proves true it is only a matter of half a minute to clean it very effectively with the point of a knife. It is believed that this improved burner eliminates one of the worst troubles common to one piece old style burners, and disposes of one of the worst annoyances of acetylene gas lighting.

That other annoyance, the carbonizing which is due to incomplete combustion, is always caused by an improper mixture of the combustible material with the oxygen of the air. In the construction of the new burner this feature was carefully considered, and it has been demonstrated that it will not carbonize under ordinary normal conditions. Its construction permits of the largest possible mixture of air with gas.

The third annoyance that is particularly common to gas lamps in general is the stoppage of the gas passage through the burner by very fine carbide dust, which is carried

up with the gas. In the construction of the carbide cup of the Model C Columbia lamp this undesirable feature has been eliminated, and the result has been a practically dust-proof carbide cup, the gas being strained through the damp linen of the water distributor, thus effectually straining the gas free from carbide dust.

Any acetylene gas generator that depends upon cotton to strain the gas, the Hine-Watt people say, is bound to clog and give trouble, but if the strainer is composed of one thickness of the best linen stretched on a perforated metal backing, both of which are always moist when in use, there can be no tendency to clog.

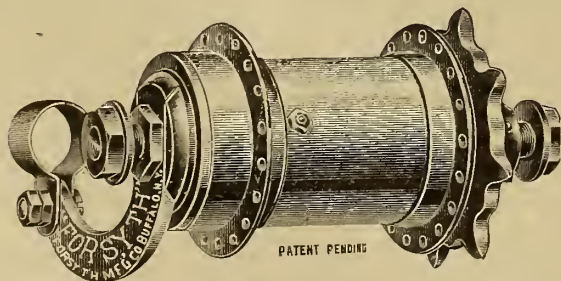
With this and the other objectionable features which have been so common to all carbide lamps overcome, the Hine-Watt Company naturally believe that their latest improved Model C Columbia automatic gas lamp will continue to grow in usefulness and to extend the popularity which it has enjoyed in such gratifying measures, and deservedly, too.

Italy Cuts the String.

The Italian Government, which enforces a driving test on all those handling a motor vehicle, which test even the King had to undergo, has declared the motor bicycle and tricycle not to belong to the category of motor vehicles, and no test is now insisted on for these self-propelled vehicles. The question if a motor bicycle or tricycle with a trailer is a motor vehicle within the meaning of the test law has not yet been decided.

When a Prospective Purchaser Asks how, why and wherein THE FORSYTH

is superior to all other coaster brakes, the dealer does not have to "talk in circles" to begot the issue. He can SHOW and demonstrate more features of actual merit and real utility than are combined in any half-dozen just-as-goods.

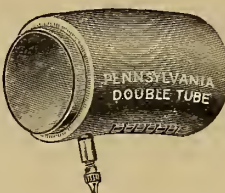


Have you as a dealer properly posted yourself?

FORSYTH MFG. COMPANY, Buffalo, N. Y.

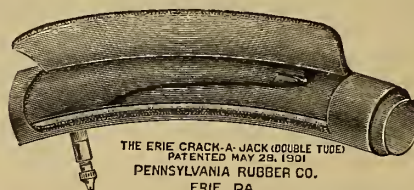
Jobbers, Be Wise!

Handle these Goods and MAKE MONEY.



STAY WITH THE GOLD MEDAL WINNERS.

Write for our 1902 Price List.



Don't close until you consider our entire line.

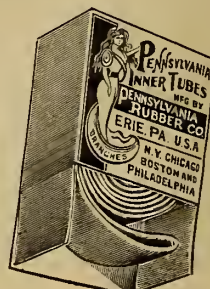
PENNSYLVANIA Rubber Company, ERIE, PA.

BRANCHES:

NEW YORK
BUFFALO

CHICAGO
PHILADELPHIA

BOSTON



The Week's Patents.

695,508. Frictional Retarding Means for Spring Vehicles. Jules M. M. Truffault, Paris, France, assignor of fifty-one one-hundredths to Edward Vassallo Hartford, Orange, N. J. Filed Sept. 4, 1900. Serial No. 28,956. (No model.)

Claim.—1. In a vehicle, the combination with a supporting spring between the parts of the vehicle movable relatively to each other, of non-pneumatic frictional means between the parts which provides a yielding resistance to movement, said means producing a retarding effect on the reaction of the spring.

695,536. Cyclometer and Register Mechanism. Leo J. Burdick, Sturgis, Mich. Filed Sept. 26, 1898. Renewed July 17, 1901. Serial No. 68,682. (No model.)

Claim.—1. In a cyclometer mechanism, the combination of a central shaft B, a cylindrical case A; an initial mechanism at one end to be acted upon by a striker or other means, a main register mechanism consisting of wheels C, C, C, C, adjacent to and actuated by said initial mechanism; a cylindrical drum D', surrounding the said register mechanism having windows therein through which the numbers of the main register mechanism show and secured to the first wheel C', actuated by the initial mechanism and formed into a suitable hub at the opposite end; a single trip or detail register mechanism consisting of wheels D, D, supported on the shaft beyond the total register mechanism; a pawl on the hub of said drum D', to permit the independent movement of the single trip or detail mechanism, a cylindrical drum G, embracing the single trip portion having a spring pawl G', adapted to rest on the periphery of each number wheel of the single trip mechanism; little lugs e' on the peripheries of each wheel D, to be actuated by the said pawls when travelling in one direction; a head A'', to the register pivoted at J, on the central shaft and secured to the drum G, and having a cap extending over the outer casing A, to permit the rotation of the said drum G, to carry the single trip register past the pawl between it and the drum D', to zero, all coacting together substantially as described for the purpose specified.

695,551. Coupling for Bicycle Pumps. James N. Hatch, Streator, Ill. Filed Feb. 5, 1901. Serial No. 46,071. (No model.)

Claim.—1. In a coupling, a body having a stem thereon, a spring clamp and lugs formed in a single piece adapted to slide on said stem, said body limiting the longitudinal movement of said clamp, and a ring for locking said clamp, the movement of said ring being limited by said lugs, substantially as specified.

695,562. Bicycle Motor. Robert M. Keating, Middletown, Conn., assignor to the R. M. Keating Motor Company, Portland, Me., a corporation of Maine. Filed Dec. 8, 1900. Serial No. 39,174. (No model.)

Claim.—1. In a gasoline engine as described, the combination of the engine cylinder, the perforated, hollow piston moving in said cylinder, and having external grooves, the perforated pitman extending into said hollow piston and connected to the crank, a pin passing through the said piston and through the hole in the piston rod, said pin having grooves in its outer ends, and a packing ring lying in the grooves in the ends of the said pin and a groove in the pitman, and retained in said groove in the piston by the bearing of the cylinder thereon, substantially as described.

695,682. Velocipede Bearing. Charles

Glover, New Britain, Conn. Filed May 1, 1900. Serial No. 15,044. (No model.)

Claim.—1. In a chainless bicycle of the free running type, in combination, the rear forks of the frame, the wheel hub having bearing cases located in each end thereof, the driving gear, the driven gear mounted on a sleeve independent of the hub and meshing with the driving gear, the axle, independent cones slidably mounted on the axle, and an abutment adjustably mounted in the rear forks of the frame and bearing against one of the sliding cones, and means operating against the other cone for moving the parts to adjust the bearings, substantially as described.

695,685. Coaster Brake. Conrad Hanrott and Harold O. Seyd, London, England. Filed June 12, 1901. Serial No. 64,297. (No model.)

Claim.—1. In a driving, coasting and brake mechanism for bicycles and similar vehicles, the combination of a driven member secured to a rotating wheel hub, a driving ring or member surrounding the driven member and the inner face of which is provided with lugs or cams adapted to lock the driven and driving members together when the driven member is rotated in one direction, a cam disk or ring secured to the driving member and provided on its outer face with locking lugs or cams which extend in a direction opposite to that of the locking lugs or cams of the driving member, a friction disk mounted on the wheel hub inwardly of the cam ring or disk, an engaging disk connected with the shaft or axle outside of the driving and driven members, and a plurality of balls placed between the driving and driven members and operating in connection with said lugs or cams of the driving member so as to lock the same to the driven member when the driving member is rotated in one direction and to coast with the locking lugs or cams upon the cam ring or disk, so as to force said cam ring or disk and driving member away from the engaging disk when the driving member is rotated in a reverse direction, substantially as shown and described.

695,776. Means for Securing Elastic Tires to Wheels. William F. Williams, London, England. Filed Dec. 16, 1901. Serial No. 86,120. (No model.)

Claim.—Means of tightening and securing the internal holding on band of an elastic tire, consisting in the combination of a tension screw adapted to make detachable engagement with the band and prevented from revolving while free to move longitudinally, a worm wheel revolving as a nut on the screw, but prevented from moving longitudinally thereof, a worm in gear with the worm wheel, a bracket wherein the screw, worm wheel and worm are mounted, a seat in the wheel rim for the reception of said bracket, and means whereby the bracket may be drawn to and secured in its seat after the engagement of the tension screw with the holding on band and the placing of the tire on the wheel rim have been effected, substantially as described.

695,826. Railway Velocipede. Marion F. McCormick, Knox, Ind., assignor of one-half to Frank E. Dumas, Knox, Ind. Filed Aug. 16, 1901. Serial No. 72,308. (No model.)

Claim.—1. An attachment for adapting bicycles to be propelled along railways, comprising a main frame bar, means for coupling said bar at one end to the frame of the bicycle, a double fork at the outer end of said frame bar, a vertical supporting wheel mounted in one fork, an inclined guard wheel mounted in the other fork and adapted to roll in contact with the inner side of the head of the rail, both of said wheels being equipped with rubber tires, and braces connecting said frame bar with the frame of the bicycle.

The Week's Exports.

"Good weeks" continue to be the rule in the matter of cycle exports. Last week was no exception. Denmark, long one of the most consistent buyers, took an unusually heavy shipment, some \$25,000 worth. England and Holland, with \$11,000 each; Germany, with \$10,000; France, with nearly \$7,000, and Sweden, \$6,000, constituted the largest purchasers. The record in detail follows:

Antwerp—19 cases bicycles and material, \$608.

Amsterdam—57 cases bicycles, \$1,650; 1 case bicycle goods, \$15.

Argentine Republic—4 cases bicycles, \$608.

British Guiana—4 cases bicycles and material, \$187.

Bremen—2 cases bicycles, \$50.

British West Indies—8 cases bicycle material, \$235.

Brazil—4 cases bicycles, \$157.

British East Indies—55 cases bicycles, \$634; 4 cases bicycle material, \$252.

British Australia—25 cases bicycles and material, \$840.

British possessions in Africa—107 cases bicycles and parts, \$3,816.

Copenhagen—1,017 cases bicycles, \$21,256; 102 cases bicycle material, \$3,644.

Christiania—3 cases bicycle material, \$34; 26 cases bicycles, \$648.

China—70 cases bicycle material, \$2,034.

Cuba—6 cases bicycle material, \$151.

Dutch West Indies—1 case bicycles and material, \$84.

Dutch East Indies—51 cases bicycles and material, \$3,730.

Ecuador—1 case bicycles, \$40.

French West Indies—2 cases bicycles, \$75.

Glasgow—8 cases bicycle material, \$378.

Genoa—37 cases bicycle material, \$2,207.

Hamburg—256 cases bicycles, \$5,302; 36 cases bicycle material, \$1,512.

Hango—16 cases bicycles and material, \$310.

Havre—133 cases bicycles, \$3,014; 51 cases bicycle material, \$3,769.

Japan—60 cases bicycles and material, \$1,315.

London—47 cases bicycles, \$1,710; 91 cases bicycle material, \$5,803.

Liverpool—39 cases bicycles, \$928; 12 cases bicycle material, \$433.

Lausanne—60 cases bicycles and material, \$1,600.

Philippines—2 cases bicycle material, \$50.

Randers—5 cases bicycles, \$65.

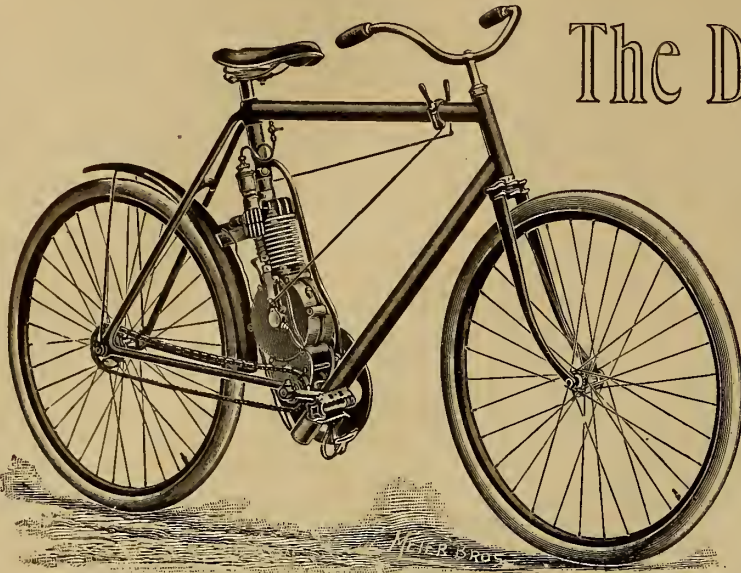
Rotterdam—189 cases bicycles, \$9,514; 18 cases bicycle material, \$738.

Stockholm—149 cases bicycles, \$5,950.

Southampton—58 cases bicycle material, \$2,779.

Ping Pong Helps Repairers.

Ping pong is being played on bicycles on "the other side." It is being hailed as a distinct aid to the cycle repairing trade.



THE DE LONG MOTORCYCLE.

The DE LONG MOTORCYCLE

PRICE, \$200.

THE DE LONG is a high grade machine in every respect.
 THE DE LONG—its simplicity arouses your curiosity.
 THE DE LONG is original.
 THE DE LONG will climb *any* hill.
 THE DE LONG is built for long trips.
 THE DE LONG is easy and safe to operate—always reliable.
 THE DE LONG has no tanks, cans, belts, cases, etc.
 THE DE LONG is a sure seller.

Our order book proves this. Send for catalogue. Secure the Agency for your town. Do it now.

INDUSTRIAL MACHINE CO., Phoenix, N. Y.

WYOMA Coaster Brakes.

UNIVERSAL AND DETACHABLE.

We control following patents:

June 12, Aug. 14, Dec. 25, 1900,

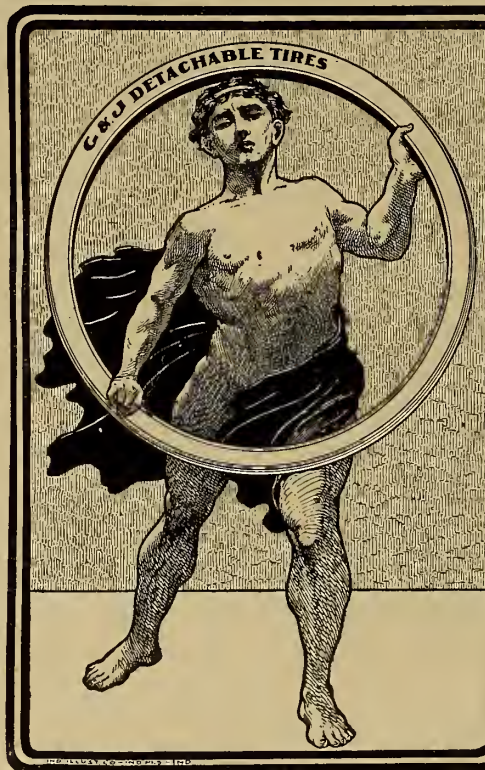
Feb. 19, March 26, April 1, 1901,

covering all features of construction of these brakes. We also control trade-mark "E. Z." and will manufacture all brakes so stamped.

See issue of January 1st for description and watch our Ad.

Reading Automobile & Gear Co.,

Tenth and Exeter Sts., READING, PA.



G & J TIRES
 EMBODY
 ALL ESSENTIALS
 OF
PERFECTION

*Strength,
 Durability,
 Speed,
 Ease of Repair.*

1902 CATALOGUES NOW READY

G & J TIRE CO.
 INDIANAPOLIS - IND.

MAKERS OF
 G & J DETACHABLE TIRES
 FOR ALL CLASSES OF VEHICLES

THERE ARE NO LAMPS EQUAL TO THE BRILLIANT or HALO Gasoline Gas Lamps

for HOME, CHURCH, STORE,
 STREET LIGHTING, Etc.

Thousands of them in daily use justify the claim. Every lamp guaranteed. Average cost of running 100 candle power

ABOUT 15 CENTS A MONTH.

ONE AGENT WANTED IN EVERY TOWN.

BRILLIANT GAS LAMP CO., 42 State St., Chicago.



WE BOUGHT THE WHOLE BUSINESS,

13,300 Pairs ...of... New Brunswick Tires

WHEN THE FACTORY WAS DISCONTINUED.

They are Money-Makers. They are selling fast.
 You should get in touch with us quick.

Write us about our \$15.00 BICYCLE.

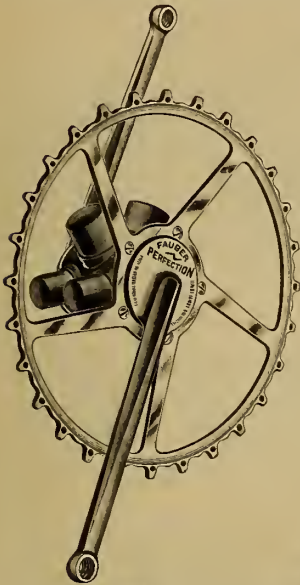
BOSTON CYCLE & SUNDRY COMPANY,

J. M. LINSOTT, Manager.

7 Hanover Street, BOSTON, MASS.

TRADE MARK

Fauber Perfection Hanger

THE
DIAMOND
SQUARE
CRANKUnequaled in
any of the
points which
make a Perfect
HangerLIGHT
SIMPLE
DURABLEFAUBER
MFG. CO.
ELGIN, ILL.

"PERFECT"



OILER.

For High Grade Bicycles. The best and neatest Oiler in the market. DOES NOT LEAK. The "PERFECT" is the only Oiler that regulates the supply of oil to a drop. It is absolutely unequaled. Price, 25 cents each.

We make cheaper oilers, also.

CUSHMAN & DENISON, Mfrs., 240-242 W. 23d St., NEW YORK

HIGH GRADE

wheels must have the
best equipments.There is nothing that gives more value for
the money than the use of theMORSE TWIN
ROLLER CHAINNOISELESS IN MUD, WATER OR
DUST AND ALWAYS EASY RUNNING.

The only chain having Frictionless
Rocker Joints. Insist on having the
Morse Twin Roller. Fits regular
sprockets.

Send for Catalogue and
Trade Price to

Morse Chain Co., Trumansburg, N. Y.

How to Become a Repairer!

"Trying it on the dog" is an old way of obtaining experience at small cost. But for calm assurance as to how to become a repairman this piece of brazen advice culled from a mechanical journal is entitled to a few buns:

"To learn shop kinks, start a general repair shop with no capital, some ingenuity and a couple of second hand machines. Take every job that comes along and sit up nights figuring how spiral gears are to be cut in a lathe, how milling is to be done with a grinder, and various other things that will develop. Not only kinks, but tangles, will be among them.

"When people come in and ask you if you can fix a sewing machine, a wringer, a baby carriage, an umbrella or a watch, tell them 'yes' and take it, for if they are told a couple of times that your shop is not just equipped for that particular job they won't come in with the next one, and the other fellow will get it. Do the work somehow, and you will find that the saying, 'Necessity is the mother of invention,' is true. Don't do the easy part of a job and turn the rest over to a shop with a larger equipment, for they will get the profit if you do, which is small enough on the whole thing anyway, and you will come out in the hole. By doing the hard part is just how to learn. Start up a repair shop to find out how many impossible jobs are possible."

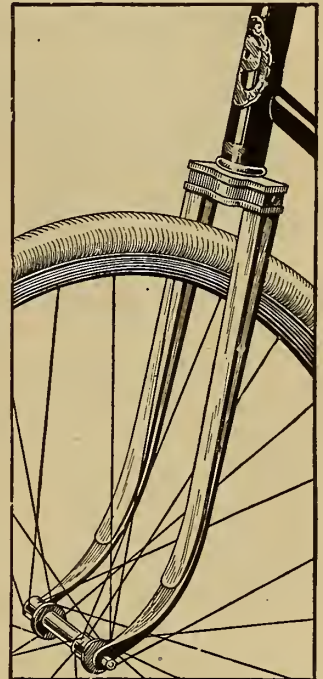
Coaster Brake Positions.

In a recent discussion on the position for the feet when riding with a coaster brake, one of the disputants expressed his preference for the nearly vertical crank position. This position was preferred because he found it gave him greater latitude and finer graduations in power applications than any other.

The explanation offered was that by simply altering the angle of the foot and changing the direction in which the pressure is applied, the checking power could be adjusted to a nicety. The cranks are held in the 59 minutes of and 29 minutes past the hour. A slight pressure downward with the upper foot gives a leverage of about one inch, the braking power therefore being exceedingly slight.

If the heel is slightly raised and pressure applied in a more backward direction, the leverage is increased. The maximum leverage is reached when the heel is raised so much that the heel is nearly in line with the crank. The direction of pressure is then straight to the rear and the full leverage of the crank, say $6\frac{3}{4}$ inches, is used. Another reason given was that with the feet in this position a sudden dismount could be made without jamming the brake on with undue force.

The question of the relationship between producers and sellers is a most important factor in the success of any business undertaking. The more cordiality there is established and maintained, the better it must be for both sides.

Luxury
of Cycling
made real!PIERCE
CYCLES

The Spring Fork is formed of two leaves of spring steel, which compose the fork sides. In conjunction with the Cushion Frame a bicycle is produced for the masses which is the equal of the coaches of the classes.

SEND FOR CATALOGUE OF 1902 MODELS.



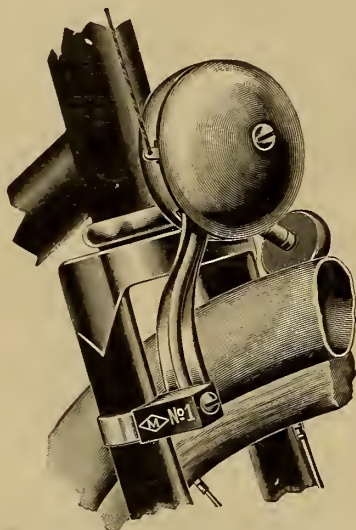
The George N. Pierce Co.

BUFFALO, NEW YORK, DENVER, SAN JOSE.

MOSSBERG Tire Chime

THE FIRST, IT IS STILL THE
FOREMOST.

ALWAYS GOOD, IT IS NOW EVEN
BETTER.



Does What a Bicycle Bell
Should Do.

Gives a loud, continuous, unmistakable,
clear-the-road alarm.

Few parts; no spring in striking mechanism;
cannot rattle; acts instantly.

Can be operated on either front or rear
wheel.

Popular-Priced and a Great Seller.

GET CATALOG.

FRANK MOSSBERG CO.,
ATTLEBORO, MASS.

WANTS AND FOR SALE.

15 cents per line of seven words, cash with order.

FOR SALE—Thomas Motor Bicycle in good
condition, \$75. J. N. EASLAND, Gt. Barrington,
Mass.

FOR SALE—Stearns Comb. Tandem. Used
but little. A 1 condition. Best offer: J. G.
JEWETT, North Attleboro, Mass.

FOR SALE—RIM MACHINERY.

Complete outfit of Cowdrey machinery for
making rims and guards. Capacity 300 rims and
70 guards per day. Outfit practically as good as
new. A fine opportunity to get a good outfit
cheap. H. M. LOUD'S SONS CO., Au Sable,
Mich.

HAND AND FOOT PUMPS,

Oilers, Repair Tools,
Valves, Name-plates, etc.

Spelter Solder

Sheet Brass,
Brass Wire and Rods.

SPECIALTIES to order
MADE OF BRASS.

SCOVILL MFG. CO.

Factories: Waterbury, Conn.
Depots: 210 Lake St., Chicago.
421 Broome St., New York

Bicycle Parts and Tubing

WRITE US FOR PRICES.

THE STANDARD WELDING CO.
CLEVELAND, OHIO

The Admiral

THE ONLY LAMP WHICH BURNS
EITHER OIL OR GAS.

...Made by...

THE ADMIRAL LAMP CO., - Marysville, Ohio.

50 BICYCLE ADS.

They are reproductions of Ads that have
brought us trade. Catchy headlines. Attractive
wording. Ready for the printer. They will surely
bring customers. Try them. Stamps taken.
Address H. P. TOWNLEY, TERRE HAUTE, IND.

ARNOLD, SCHWINN & CO.
CHICAGO.
WORLD BICYCLES.
Jobbing Wheels a Specialty.
LARGEST INDEPENDENT MAKERS IN THE COUNTRY.

Upon receipt of 40 cents in stamps we will mail one
dozen of the MAGIC as a sample trial to any part of
U. S. A. Ask your jobber for it.



HAS A POINT ONLY $\frac{1}{16}$ IN. DIAMETER.

Bicycle salesmen wanted to handle the MAGIC as a
side line.

THE MAGIC REPAIR TUBE CO., 248 LARRABEE ST., CHICAGO, ILL.

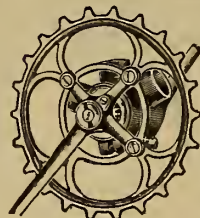
THE CROSBY COMPANY,
BUFFALO, N. Y.,
Sheet Metal Stamping.

THE ARMSTRONG "A" CRANK HANGER



is conceded by competent judges to be the
most perfect in point of design, mechanical
construction, finish and materials used,
that it is possible to produce. Made in
one grade only, the highest. Handsome
in appearance; simple in construction; easy
and positive adjustment. We make the
most complete line of bicycle frame fit-
tings and crank hangers on the market.
Our 1902 prices are low. Write for them.

ARMSTRONG BROS. TOOL CO., Chicago.



"D. & J." HANGERS

FOR
Single,
Tandem,
Triplet,
Quad and
Motor Cycles.

Lightest, Nearest Dust Proof, and
Easiest Running Hanger in the World,
Park City Mfg. Co., Inc., Chicago

SPOKES AND NIPPLES

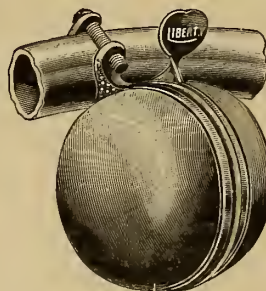
for **Bicycles, Motorcycles**
and **Automobiles.**

STANDARD

SPOKE & NIPPLE CO., Torrington, Conn., U. S. A.

"LIBERTY" CHIMES

BICYCLE and MOTOR CYCLE BELLS.



Original in Design. Practical in Construction.
Superb in Finish.

In a word their general excellence
has made them pre-eminent everywhere.

For Sale by all the Leading Jobbers.

Used by all Discriminating Purchasers.

LIBERTY BELL COMPANY, Bristol, Conn.

DO IT NOW

If your business shows signs of lethargy—

WRITE US

Don't put it off and think that tomorrow will do—

DO IT NOW

We want to tell you about the

Wolff-American**Regal and****Holland**

bicycles for 1902. They are sold by representative dealers. They will give an eighteen carat freshness to your store. They have done it many times for others and can do the same for you—and—

DO IT NOW

Stearns Bicycle Agency
GENERAL DISTRIBUTORS
Syracuse, New York.

Just a Matter of Tires.

"If I were quite sure that I should use my wheel \$5 worth this season I would invest in a new pair of tires. But I don't feel like 'blowing in' the money without having some sort of a guarantee from myself that I should get the worth of it."

Thus remarked a once active cyclist in the hearing of the Bicycling World man. Encouraged by the latter's evident interest, he went on:

"You see, it is this way. I did not ride any last year, and very little the year before. Consequently, I feel the need of some exercise. Besides, I miss my rides, having found nothing to replace them. So I have seriously thought of taking up cycling again, just to see if it retains any of its old charm. If it does I shall be very glad, and it will be worth the \$5 many times over."

"Why do I hesitate? Just simply because I am not sure I shall stick to it if I take it up. Last spring I was in the notion of riding again, but did nothing with it. The year before it was the same way—I was always 'going to' pursue the pastime with my old time zeal. But I never did."

"So now I am not sure my \$5 would not be thrown away. And if so I should feel like kicking myself."

"But I must do one thing or the other this year—either get new tires or stop thinking of riding. Those on my machine are quite worn out—worthless, in fact; they won't even hold air any more. And, to be quite honest about it, I half believe that it is a good thing. It will force me to do something. And I've a sneaking notion that I'll find myself in a store some fine afternoon, buying a pair of tires."

Beware! the Low-Priced Motorcycle.

While it is yet too early to give specific warning against low priced motor bicycles, as the industry is too new to attract the vultures, it will do no harm to remind the dealer that he should take to heart the experiences gained with the motorless bicycle and strenuously fight the natural demand on the part of the public for low priced motor bicycles.

"How to Drive a Motorcycle." See "Motorcycles and How to Manage Them." \$1. The Goodman Co., Box 649, New York. ***

Cushion Frame Talk is Profitable Talk.

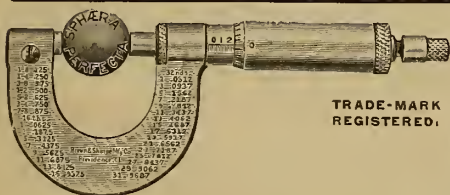
Are
YOU
talking it?

HYGIENIC WHEEL COMPANY,

OWNERS OF
CUSHION FRAME PATENTS

220 Broadway, NEW YORK.

Home Office, Philadelphia.



TRADE-MARK
REGISTERED.

**STEEL
BALLS**

WE ARE THE ONLY MANUFACTURERS WHO CAN MAKE THE FOLLOWING GUARANTEES:

- That every ball is a perfect sphere.
- That every ball is within 1-10,000 of an inch of exact size.
- That the balls are made of the best quality of true crucible tool steel.
- That balls bought from us at one time will be exactly like balls of a similar size bought from us at any other time.

THE STEEL BALL COMPANY,

832-840 Austin Avenue,

CHICAGO, ILL.

20th Century Double Bells**SOMETHING NEW IN THE BELL LINE.**

Very musical chime. Two stationary gongs. Two bells in one.

LOUDEST RINGING BELLS ON THE MARKET.

50 CENTS LIST PRICE.

Trade Price is Low Enough to Satisfy Everyone.

We have THREE OTHER SPECIAL BELLS at INTERESTING PRICES.

CATALOGUE AND TRADE PRICE READY

(WILLIS' PRICES ARE BUSINESS MAKERS.)

WILLIS PARK ROW BICYCLE CO., 23 Park Row New York.

HAVE YOUR BICYCLE EQUIPED WITH A

NEW DEPARTURE COASTER BRAKE

SOLD EVERYWHERE BY EVERY BODY

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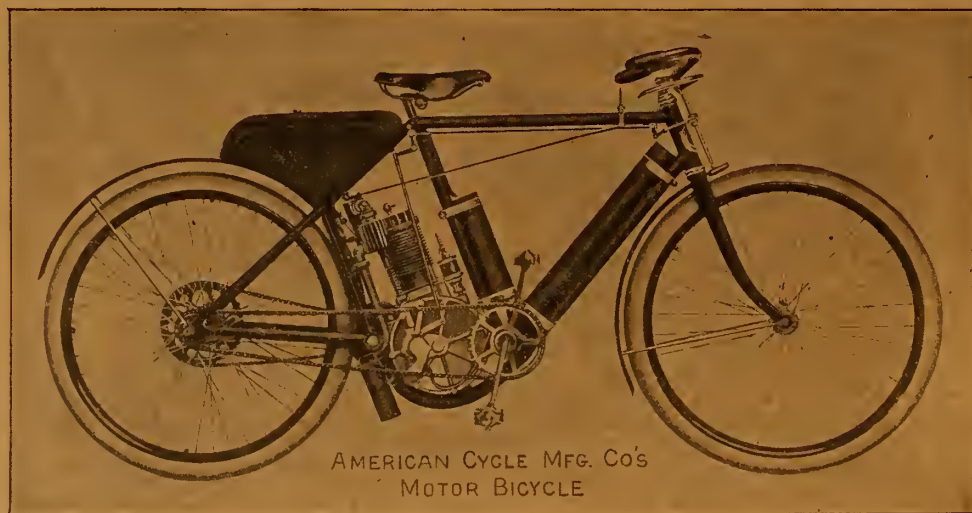
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